Orthopedic Supplement

Contributed by

The American Osteopathic Academy of Orthopedics

Volume 6
Number 1

December, 1950
Pages 1 to 18

ORTHOPEDIC SUPPLEMENT

The American Osteopathic Academy of Orthopedics

Editorial Office, 212 East Ohio St., Chicago 11.
Address all communications to the Chicago Office.
Copyright, 1950, by the American Osteopathic Assn.

JOHN PALMER WOOD, Birmingham, Mich. ..... Editor

OFFICERS

PRESIDENT ..... Harry F. Schaffer, Detroit
VICE PRESIDENT ..... Warren G. Bradford, Dayton, Ohio
SECRETARY-TREASURER ..... J. Paul Leonard, Detroit

BOARD OF DIRECTORS

Hooker N. Tospon ..... St. Joseph, Mo.
W. E. Darling ..... Detroit
Wallace M. Pearson ..... Kirksville, Mo.
Glen W. Cole ..... Norristown, Pa.
Karl P. B. Madsen ..... Oakland, Calif.
Robert O. Fagan ..... Des Moines, Iowa

Volume 6 | December, 1950 | Number 1

CONTENTS

Congenital Clubfeet.
Karl P. B. Madsen, Oakland, Calif. 3

Fracture of the Femoral Neck.
Harold E. Clybourne, D.O., F.A.C.O.S., Columbus, Ohio..10

Details in Orthopedic Practice.
James M. Eaton, D.O., F.A.C.O.S., Philadelphia.....13

Orthopedic Supplement
Vol. 6, No. 1, December, 1950

Congenital Clubfeet

KARL P. B. MADSEN, D.O.
Oakland, Calif.

Down through the ages the subject of congenital clubfeet has been extremely controversial as evidenced by the literature. Several theories have been presented in regard to the etiology of this condition, but no evidence capable of proving any particular hypothesis has been produced. There are four principal theories, each of which appears to fail on some vital point when closely examined. They are: (1) The defect in the germ theory, (2) the arrest of development theory, (3) the spasmodic muscular theory, and (4) the mechanical theory.

The methods of treatment since the days of Hippocrates have varied from simple manipulation and splinting to radical surgical procedures. The latter form of treatment, although many technics have been devised and tried, has fallen into disrepute because of the disappointing results which were obtained.

The studies and experiences of our predecessors have gradually led to a clearer understanding of the problem at hand, so that today it is maintained that 90 per cent of common clubfeet can be successfully treated without surgery. In order to attain such a high percentage of cures it is necessary to begin treatment early, to classify the deformity properly, and to understand the altered anatomical relationships of the bones of the foot.

CONGENITAL TALIPES EQUINOVARUS

There are three distinct deformities to which the name "congenital talipes equinovarus" may be applied:

1. The first or common type of clubfoot occurs more commonly in boys than girls. It is agreed that it is more often bilateral than unilateral. Except in rare instances the infants are otherwise normal. Occasionally when one foot only is involved the other exhibits the deformity of calcaneovalgus. The degree of deformity varies a great deal—from a slight exaggeration of the foot at rest to that in which the foot is so deformed that it lies almost in contact with the inner border of the tibia. The degree of rigidity of the foot differs appreciably. Associated with the deformity is a diminished development of the leg and foot. Occasionally the foot deformities may be associated with other congenital malformations, such as hydrocephalus and spina bifida. A large group of the infants will exhibit genu valgum as they grow older. This condition has been attributed to lack of protection of the knee joint while the foot is being manipulated. Although some stretching of the ligaments of the knee joint may take place, a number of the untreated infants already exhibit the genu valgum in association with the foot deformity. The foot deformity can be divided into three constituents:

a. Adduction: The forefoot is rotated inward, the displacement occurring chiefly at the joints formed between the astragalus and the os calcis behind and the scaphoid and cuboid in front. The other tarsal bones contribute to a lesser extent to the deformity.

b. Inversion: The entire tarsus with exception of the astragalus is rotated inward beneath the leg.

c. Equinus: The os calcis is drawn upward so that the whole foot is plantar flexed. This condition is sometimes called "ankle equinus." Plantaris or forefoot equinus is flexion of the forefoot upon the hindfoot. It occurs in the astragaloscaphoid and the calcaneocuboid joints.

All three of these separate deformities are intimately connected and occur in a congenital clubfoot. It is impossible to correct all three at one time. In comparison with talipes equinovarus, other forms of congenital talipes are infrequent and present fewer therapeutic problems; therefore, they are not mentioned in this description.

2. The second type of talipes equinovarus is quite rare and will, therefore, only be briefly discussed. The condition is either found in the lower limbs alone or in all four extremities. Both feet are always involved and the deformity is much more exaggerated and rigid than in the common type of clubfoot. The musculature is poorly developed in the thigh and leg. The knee and hip are fixed in flexion deformity. The position of the foot is practically unalterable and returns to its former state upon release of the corrective force.

3. The third type is a very rare type of deformity which is associated with partial or complete absence of the tibia. The whole leg below the knee is abnormal, the foot rigid, usually poorly developed, and not amenable to manipulative treatment. Amputation of the leg and temporary prosthesis until the child is fully developed and can be fitted with an artificial leg, have been recommended as the best solution to this problem.

NORMAL ANATOMY OF THE FOOT

In order to understand the changes which are observed in the congenital clubfoot, it is essential to know the principal components of the foot. They will be discussed briefly.

Muscles of the Foot.—The muscles of the foot and leg can be divided into two groups: (1) The extrinsic which have their origin in the leg and their insertion into the bones of the foot, and (2) the intrinsic, which both arise from and are inserted into the bones of the foot itself, or into the tendons of the extrinsic muscles.

1. The Extrinsic Muscles: All the muscles of this group, with the single exception of the tendo Achilles which is inserted into the os calcis, are inserted into the bones of the forefoot. They are primarily concerned with the movements of the leg on the foot and the forefoot upon the hindfoot. The tendon of the tibialis anticus muscle has its insertion in the foot on the medial side of the internal cuneiform and the inner side of the base of the first metatarsal. In addition, there exists a well-defined band of superficial fibers which passes underneath to become inserted in these two bones. Brockman[1] points out the importance of the latter in certain examples of persistent inversion of the forefoot after all the other deformities have been corrected. The tibialis anticus, therefore, serves to invert and dorsiflex the foot and also lift the inner margin of the forefoot in relation to the hindfoot.

The tendon of the tibialis posticus passes behind the internal malleolus in a sheath of strong fibrous tissue, to be inserted into the first cuneiform and the

tuberosity of the scaphoid. Contraction of the muscle extends the tarsus upon the leg.

The extensor digitorum longus is also of importance in congenital clubfoot. It descends over the dorsum of the foot to be inserted into the first and second phalanges of the four lesser toes. Besides being an everting muscle it is also a strong dorsiflexor of the foot.

2. The Intrinsic Muscles: These muscles can be considered as a group. They arise from the under and inner surfaces of the os calcis and pass forward, having a varied attachment to the structures of the forefoot. The combined action of these muscles shortens the foot and flexes the forefoot upon the hindfoot.

Joints of the Foot.—

1. The Ankle Joint: This joint is formed by the superior surface of the astragalus with its lateral and medial surfaces articulating with the mortice formed by the tibia and fibula. The superior surface of the astragalus is greater in the anteroposterior direction than the corresponding surface of the tibia. Thus a portion of the articular surface of the astragalus is normally not in contact with the tibia. The movements are flexion and extension, controlled by muscles passing from the leg to the foot.

2. The Astragalocalcaneoscaphoid Joint: This is a ball and socket joint. The head of the astragalus which is ellipsoid in shape articulates with the scaphoid and the superior articular aspect of the sustentaculum tali. The latter two are connected by ligaments which complete the socket. The ligaments of this joint have been divided into two groups:

a. Ligaments completing the socket, for the head of the astragalus and

b. Those which constitute the capsule of the joint:

(1) Ligaments completing the socket are the inferior calcaneoscaphoid ligaments, the external calcaneoscaphoid ligament and the superointernal calcaneoscaphoid ligament. The latter blends with the internal lateral ligament of the ankle joint.

(2) Ligaments constituting the capsule of the joint are the astragaloscaphoid ligament, the external and internal astragalocalcaneal ligaments and the interosseous astragalocalcaneal ligaments.

The partly ligamentous and osseous construction of the socket for the head of the astragalus permits considerable alteration in its capacity. This is important in the treatment of congenital clubfeet.

3. The Posterior Astragalocalcaneal Joint: This is a saddle-shaped joint formed by the posterior portions of the astragalus and the calcaneus. The joint capsule is composed of the external astragalocalcaneal ligament, the internal astragalocalcaneal ligament and the interosseous astragalocalcaneal ligament. It communicates with no other joints.

4. The Calcaneocuboid Joint: This is a shallow ball and socket joint between the anterior portion of the os calcis and the posterior surface of the cuboid. The capsular ligaments are the internal and superior calcaneocuboid ligaments. There is no communication with other joints.

Normal Movements of the Tarsal Bones.—The movements which take place in the tarsal bones may be divided into two groups: (1) Those of the ankle joint, and (2) those which occur upon the head and inferior surface of the astragalus.

1. The motions in the ankle joint are flexion and extension.

2. The second group of movements takes place without the astragalus altering its position except in flexion and extension. The number of bones articulating together and the nature of the ligamentous attachments permit certain alterations in the capacity of the socket for the head of the astragalus when placed in various positions. Thus, when the foot is inverted and adducted, the scaphoid rotates around the head of the astragalus towards the sustentaculum tali. Since the bones are connected with ligaments, they must move together. Therefore, when the foot is adducted and inverted the scaphoid, cuboid, and anterior portion of the os calcis must move in unison. Thus, the os calcis comes to lie beneath the astragalus and the scaphoid will be in close relationship with the sustentaculum tali. In this position the socket for the head of the astragalus is diminished in size and the head is subluxated and can be palpated upon the dorsum of the foot. If equinus is added, a still greater degree of adduction and inversion is possible, hence further diminution of the socket. The reverse position or eversion and abduction causes the muscles to relax and the socket obtains its maximum capacity to accommodate the head of the scaphoid.

PATHOLOGICAL ANATOMY OF CONGENITAL TALIPES EQUINOVARUS

The deformity of the common type of congenital equinovarus varies from a very mild form to the one in which the toes touch the medial side of the lower leg. The internal malleolus appears flattened and poorly developed while the external malleolus assumes an excessively prominent position. Different opinions have been expressed concerning the relative positions of the malleoli. It is maintained by some that the relationship of these bony points is definitely altered, while others are of the opinion that the changes observed are due to the position of the foot which brings the scaphoid into contact with the malleolus, or nearly so, and thus obliterates the malleolar tip. Brockman[1] points out that, except in very rare instances, the malleoli are normally situated as shown by examination of patients in whom the deformity has been cured. The skin is normal in texture and presents a transverse crease across the sole at the level of the mediotarsal joint. The muscles in this type of congenital clubfoot are normal in structure but are shortened and poorly developed. This is substantiated by the fact that, after correction of the deformity, they are able to carry on their normal functions. The tendons are rather delicate and displaced into abnormal positions as a result of the altered position of the foot to the leg.

In describing the ligaments holding the tarsal bones in their abnormal position, it has been said that the internal calcaneoscaphoid and the inferior calcaneoscaphoid ligaments are thickened and contracted. Since the scaphoid and the sustentaculum tali are so closely approximated in the congenital clubfoot there is no room for these ligaments. Brockman[1] states that they have failed to develop either partially or completely.

It is generally agreed that while the main deformity involves the relationship of certain bones more than others, all the bones of the tarsus are smaller than normal. Thus the center of ossification of the scaphoid may not appear before the sixth year, but it will assume its normal rate of development when properly aligned and its physiological function occurs. Except for the size of the bones their shape remains unaltered,

save occasional changes in the astragalus. The position of the foot in the deformity is an exaggeration of that which can be assumed by a normal foot.

Let us consider the position of the various bones in a typical clubfoot. The astragalus is in plantar flexion and slides forward and downward out of its mortice. Except in very old and neglected clubfeet there is no inversion or eversion present because the superior articular surface of the astragalus remains unchanged. The scaphoid is displaced downward, inward, and backward, thus approximating the sustentaculum tali. The socket formed by the scaphoid, sustentaculum tali, and the capsular ligaments for the head of the astragalus has its smallest capacity in this situation and the head of the astragalus is in a position of subluxation and can be palpated upon the dorsum of the foot. The cuboid, which is intimately attached to the scaphoid and anterior portion of the os calcis, follows the scaphoid and is swung medially and downward with the anterior portion of the os calcis so that the two come to lie in a position of adduction and inversion under the head of the astragalus. The outer edge of the foot faces downward and the medial upward.

With this brief description of the intimately connected and interrelated components of the deformity in the common congenital talipes equinovarus, an attempt has been made to lay the foundation for a better understanding of the mechanics involved in correcting the condition.

PRINCIPLES OF TREATMENT

The multiplicity of operations which have been devised for the correction of the deformity and, finally, the admission of the surgeons that this method of treatment should be reserved for a small percentage of the congenital clubfeet and then utilized only after maximum correction has been obtained by conservative measures, provides a serious warning to the physician who assumes the responsibility of treatment.

A condition is being dealt with which constitutes approximately 75 per cent of all congenital abnormalities of the foot. There are two requirements for successful treatment: (1) Complete correction of the deformity and (2) maintenance of the correction until the patient is able to do it on his own power.

Whatever method used for the correction, all agree that treatment should begin during the first month of life. Once a procedure has been decided upon, careful attention must be given to the minute details of the chosen technic. In the hands of their originators, various modes of treatment have attained a certain measure of success. Whether gratifying results can be expected with any method of therapy depends, to a large extent, upon the individual physician's ability to apply properly the principles of the technic. Complete correction of the deformity is most easily obtained during the early months of life. As the infant grows older it becomes impossible to attain the goal with conservative methods. Excessive manipulation of the foot at one sitting leads to the formation of adhesions and, therefore, a rigid foot. Delay in the application of rational therapy, ineffectual manipulation, and failure to maintain the foot in the corrected position represent a serious loss of time and opportunity.

Plaster of Paris immobilization following manipulation of the foot is employed to great advantage in many instances. Used skillfully, it provides an excellent form of treatment. It is important to exercise the greatest of care in its application, first, to keep the foot in the desired position and, second, to avoid damage to the soft tissues and joints by pressure points.

Other less stable forms of immobilization may injure the skin but their principal dangers lie in their failure to hold the foot in the correct position unless the treatment is carefully supervised. All clubfeet under treatment should be examined at frequent intervals by the physician, for without careful and conscientious attention to all details the percentage of cures is bound to become extremely low. With patience and cooperation, conservative treatment can be successful in a large group of patients up to 8 years of age. The treatment is directed toward reversal of the abnormal relationship of the structures in the foot and must be carried out in a definite sequence.

1. The adduction deformity must be corrected first. The forefoot, scaphoid, and cuboid are brought into abduction. This maneuver stretches the shortened structures holding the foot in the adducted position, enlarges the osseoligamentous socket for the head of the astragalus and gradually reduces the subluxated astragalocalcaneoscaphoid joint. It is essential that complete correction of this component take place before any attempts are made to overcome the equinus. The scaphoid must occupy its normal position in front of the head of the astragalus and the cuboid in front of the os calcis. This should be ascertained by anteroposterior x-ray films. If the scaphoid remains medial to the head of the astragalus, further treatment is necessary.

2. The inversion deformity is gradually being corrected at the same time that the foot is being carried into abduction. While the scaphoid and cuboid are forced into abduction the entire foot is also turned lateralward from under the astragalus. The inversion deformity is present chiefly in the subastragalar joint. Care must be taken not to overcorrect the os calcis to a valgus position. If the inversion deformity has not been corrected, anteroposterior x-ray views show the anterior end of the os calcis to be located under the head of the astragalus. In the event correction is complete, the roentgenographs show that the midline of the anterior end of the os calcis points toward the fourth and fifth toes and that of the head of the astragalus toward the first and second toes. After the roentgenographs have demonstrated satisfactory reduction of the adduction and inversion deformities the foot is ready for correction of the equinus.

3. The equinus deformity is the last element to be corrected. It is divided into two parts: forefoot equinus and ankle equinus. The two are usually present in the same foot in varying degrees and, since different joints are involved, this must be kept in mind when correction is attempted. The forefoot equinus occurs in the astragaloscaphoid and the calcaneocuboid joints and is sometimes referred to as "plantaris." The forefoot may proximate a right angle to the hindfoot. In the ankle equinus the heel is drawn upward, thus causing the os calcis to slide backward under the astragalus. The superior surface of the posterior portion of the os calcis is adjacent to the tibia. The anterior end of the os calcis points downward and the astragalus projects beyond the limits of the os calcis nearly one half its length. The astragalus occupies a position of acute plantar flexion with its posterior articular surface under the tibia.

While the ankle equinus offers a greater problem than the plantaris in regard to correction, the forefoot equinus can also become troublesome, as will be pointed out presently. If the forefoot is brought into dorsiflexion, which is not so difficult, the more resistant ankle equinus will not receive proportionate correction and a plantar bowing, therefore, takes place in the astragaloscaphoid and the calcaneocuboid joints, producing the "rocker bottom" foot.

In order to avoid this undesirable deformity it is important to bear in mind the restoration of the normal relationship of the os calcis and the astragalus, for unless the os calcis is drawn downward in respect to its posterior end and, at the same time, forward under the astragalus until the bones have assumed their normal positions, the result is certain to become disappointing. The corrective measures for the two entities in this deformity must embody specific consideration to each although both, as in the case of the adduction and inversion deformities, are treated simultaneously.

In the foregoing discussion, attention has been directed to the three deformities commonly found in congenital equinovarus and the sequence which experience has shown corrective measures must follow. The second requirement, that of maintaining the foot in the corrected position, becomes the next problem.

While we are reminded that different methods can produce the same results, we are also cognizant of the fact that certain forms of treatment are more efficient than others. The procedures which will be mentioned in this presentation require considerable effort on the part of the physician. On the other hand, the frequent visits give him an opportunity to observe the infant closely and to carry out maximum treatment at optimum intervals. The responsibility of efficient care rests mainly upon one trained individual and only to a limited extent upon the mother and members of the family.

METHOD OF KITE

In the opinion of the writer, gentle manipulations and correction of the deformity, followed by plaster immobilization, offer the most efficient form of treatment. Kite[2, 3] states that since 1924 he has been able to successfully treat 90 per cent of all clubfoot cases by plaster and wedgings. This was accomplished without the use of anesthesia and at no time was the corrective force sufficient to cause the patient to cry out with pain. He divides the treatment into:

1. Correction of the adduction and inversion deformity
2. Correction of the equinus deformity
3. Retention of the correction
4. Follow-up treatment.

The treatment is preferably started early. The surgeon holds the foot with his thumb on the great toe and the index finger under the medial side with pressure on the head of the first metatarsal. The other hand holds the knee flexed at a right angle to the table. Sheet wadding is then applied smoothly and snugly to the foot and leg. Small pieces of extra padding are placed over the head of the first metatarsal, the lateral side of the foot, the heel, and the knee.

The fast-setting plaster bandages are next applied, one to the forefoot and the other to the heel. While the assistant holds the knee perpendicular to the table the surgeon places the foot in the desired position and molds the plaster. This is done by grasping the toes with one hand, flattening the cast and exerting light pressure on the head of the first metatarsal with the crotch of the thumb. The other hand grasps the heel and pulls the heel outward as the thenar eminence of the palm makes pressure inward along the lateral border of the foot. The final molding can be done with the surgeon shifting to the other side and again pushing the heel and toes outward while he makes pressure inward and upward with the fingers under the anterior end of the os calcis and cuboid. The ankle is permitted to remain in neutral position at this stage. After the plaster has set the application is continued upward to midthigh with the knee flexed.

Wedging in abduction is carried out every 3 to 14 days, depending upon the age of the patient and the ability to return for treatment at frequent intervals. Young children need changes of plaster every 2 weeks because of the rapid rate of growth. After a cast has been wedged two to three times a new one is applied. The wedge is removed from the lateral side of the foot. The cast is cut at the anterior end of the os calcis and again ½ to 1 inch distally, continuing the incisions around to the medial side of the foot in the region of the astragaloscaphoid joint, dividing the cast in two. The edges of the cut plaster are carefully turned up to avoid pressure. The forefoot is then gently abducted until the infant shows signs of discomfort. The cast is then reunited with a plaster bandage applied figure-of-eight fashion the better to hold the defect. The wedgings and casts are repeated until the forefoot is carried out approximately 30 degrees beyond the midline and x-rays show the adduction deformity has been corrected. The inversion deformity is corrected gradually with each change of casts. The os calcis must not be carried into a valgus position and, before dorsiflexion is considered, the proper position should be determined by x-ray.

Wedging for the correction of the equinus deformity may be started when the radiographs show the inversion and adduction deformities have been corrected. When a fresh cast is put on, pressure is applied upward on the lateral border of the foot and the anterior end of the os calcis, so as to preserve the arch. The plaster is carefully molded about the heel so that it will not slip away. The cast is wedged twice weekly, removing the wedge from the anterior surface of the ankle. The cut is at the level of the malleoli in order to have the motion in the ankle joint when the foot is brought into dorsiflexion. The edges of the cast are carefully turned out and the two portions of the cast closed with a figure-of-eight plaster bandage. It is important that the apex of the cut in the cast does not extend too low on the heel, because dorsiflexion will then very likely take place in the transverse tarsal joint, giving rise to a "rocker bottom" foot. Treatment is continued until the foot comes up as far as, and preferably a little farther than, the normal foot. Immobilization is then continued for an additional 8 to 12 weeks with changes at intervals of 3 weeks to ascertain the permanency of the correction.

The children are not permitted to walk at any time in the plaster encasements. When the plasters are removed the parents are instructed to dorsiflex the foot for 5 minutes night and morning by intermittent stretchings.

Kite[2] then recommends a "straight last" shoe and points out that a properly corrected foot will not relapse nor will it be cured by special footwear. The children should be seen at frequent intervals after

cessation of treatment and, if evidence of relapse appears, casting is resumed.

METHOD FOR GENERAL PRACTITIONER

The following is the writer's choice of treatment and immobilization. The failure to effect a cure for the deformity encountered in the common congenital clubfoot too often rests upon the shoulders of the surgeon. This is substantiated by the brilliant results obtained by Kite in hundreds of cases, many of which had been treated elsewhere by various methods. His concept of the mechanics of the deformity and its correction appears sound. While the plaster wedging treatment is very effective, it is a recognized fact that few surgeons have the opportunity to treat a large volume of patients with congenital clubfeet. The general practitioner, who in certain localities is obliged to provide treatment for these infants, may not possess the necessary experience with plaster encasement to carry out the wedging safely, for serious complications can arise from the removal of a wedge and change of position of the foot in a plaster cast unless the physician is familiar with the pitfalls of the procedure. For this reason the writer suggests a method which he believes is safer and yet efficient in the hands of a general practitioner. The principles and methodical correction of the deformity are identical to those previously described. The difference lies in the application of the cast and its complete change at each visit.

Instead of roller plaster bandage, which an untrained assistant may find difficult to apply to a small foot, strips of double thickness plaster are employed. The short and narrow lengths of plaster-impregnated material are less cumbersome to handle and lend themselves admirably to quick casting. The danger of constricting the circulation in the popliteal space by a circular cast is obviated by the elimination of plaster in that region. By changing the cast at each visit the general practitioner has an opportunity to observe the foot and is, therefore, less likely to experience such complications as pressure necrosis from a faulty wedging.

The materials used are:

1. Sheet wadding in rolls of 1 to 3 inches wide
2. Plaster splints 3 by 15 inches (fast setting) (For infants the splints are folded longitudinally, thus making two layers. In children up to 1 year two strips are used together.)
3. Talcum powder.

The procedure is carried out as follows:

1. The infant is placed upon a table in the supine position. While the foot is being manipulated and the cast applied, the mother generally feeds the baby milk or fruit juice.
2. Talcum powder is applied to the foot and leg.
3. The physician then grasps the forefoot with one hand, flexes the knee to a perpendicular position, following which he gently abducts and externally rotates the forefoot upon the hindfoot. The fingers of the other hand hold the calcaneus and exert counterpressure over the head of the astragalus. The physician thus determines the amount of correction which is possible before a cast is applied. The mother gives light counterpressure above the knee.
4. Sheet wadding 1 to 2 inches wide is then applied, starting at the foot and extending slightly beyond the toes. While the forefoot is being held in the corrected position with the index finger and the thumb, the sheet wadding is spiralled up the extremity smoothly and snugly to the midthigh. Two layers are usually sufficient.
5. While the physician holds the forefoot with his index finger on the medial side, an assistant applies the first double thickness plaster strip starting on the lateral aspect of the dorsum and carries it around twice before ascending in a spiral over the ankle. The physician's fingers holding the foot are removed from the medial to the lateral side alternately to permit application of the plaster. The second strip of the plaster is begun slightly proximal to the first, wound around twice, and then over the medial aspect of the foot. The third and fourth strips complete the heel and shaft portion of the cast. Sufficient plaster bandage has now been applied to hold the foot in the desired position. Avoidance of undue pressure points must be borne in mind throughout the application.

While the cast is hardening, the assistant folds the projecting sheet wadding back, thus exposing the tips of the toes. The cast is completed by four layers of the strips applied "U" fashion over the distal half of the femur and extending down the leg with the knee flexed to 90 degrees. An additional piece of plaster bandage is made to cover the knee and circle the leg below the popliteal space. Finally, the sheet wadding is folded back and incorporated into the wet plaster by the assistant.

6. The cast is changed at intervals ranging from 7 to 14 days, depending upon the age of the infant and the rate of growth. The removal is most easily accomplished by cutting the sole medially and laterally and then splitting the cast posteriorly. It is usually possible to spread the edges sufficiently to remove the encasement. The extremity is then carefully washed with soap and water, dried, and powdered before recasting.

TREATMENT WITH METAL SPLINTS

In 1892 English orthopedic surgeons began using metal splints in the treatment of congenital clubfoot. Several modifications of the splint were developed during successive years and in 1937 Denis Browne[4] reported a new modification. He stated at that time that, by the use of this splint, it is possible to correct the position of one foot by means of the other. The splint consists of two metal foot plates to which the feet are strapped with adhesive tape. The plates are held by an adjustable horizontal bar which maintains the feet in the corrected position. While the splint originally was used as an adjunct in treatment, since the primary correction of the structural deformity was accomplished by forceful manipulations, it was soon observed that the constant kicking permitted by this apparatus provided continual manipulation of the feet and an opportunity for the development of normal musculature and correction of the deformity.

A modification of the Denis-Browne splint was introduced about 10 years ago by Thompson.[5] It is largely through his work that the splint has become popular as the sole corrective force in the early treatment of congenital clubfoot.

In 1944 Bell and Grice[6] reported a series of cases treated with gratifying results. They employed a splint similar to that described by Thomson and others. The splints were made in three sizes slightly bent so as to conform to the contour of the foot and preserve the longitudinal arch. While little difficulty was encountered in the mild and moderate cases, a number of refinements in the technic were developed in order to treat

the more severe forms of deformity successfully. Little corrective force was used at first and the crossbar assumed the shape of an inverted "V." As the correction progressed the bar was gradually straightened and finally bent in the opposite direction, thus bringing the feet into dorsiflexion.

Blumenfeld, Kaplan, and Hicks,[7] reporting a series of cases treated at the State University of Iowa from 1942 to 1945, found that excellent results were obtained in 53 per cent of the patients treated by the Denis-Browne splint alone. Most of the patients were treated very early. The remainder of the cases in which treatment was started with the Denis-Browne splint required complemental conservative treatment, either by the use of the Kite casts or manipulation under anesthesia. A total of 80 per cent good results were thus obtained by conservative treatment. The authors conclude that the Denis-Browne splint method of treatment alone or complemented by another form of conservative therapy gives the best results in patients under 1 year of age. They further state that, in cases in which the Denis-Browne splint fails to obtain correction, or in patients between 1 and 4 years of age, the Kite cast treatment should be used. Finally, they point out that metatarsus varus, which is difficult to correct with metal splints, can be treated either by wedged casts or manipulation.

In the treatment of unilateral deformity, experience has taught that certain alterations are necessary in the cross bar, in order to obviate continual pushing of the normal foot into valgus by the action of the other foot.

The method of Zecchino[8] consists of a single bar shaped to keep the normal foot in nearly neutral position. The bar extends distally for approximately 3 inches and then bends to 90 degrees toward the abnormal foot. The "V" in the bar to increase dorsiflexion comes well toward the abnormal side.

The treatment of congenital clubfoot with the modified Denis-Browne splint has become increasingly popular. The favorable reports from various clinics indicate encouraging results when therapy is started early. The many difficulties encountered with early types of splints have largely been overcome by minor changes in the apparatus and improvement in technic. Since the literature contains a number of detailed descriptions, the writer will merely enumerate the most important points to keep in mind when selecting this method of treatment:

1. *Apparatus.*—

a. The plates must fit the foot.

b. Felt or rubber sponge should cover the plate.

c. The plate should be bent slightly to preserve the longitudinal arch and prevent "rocker bottom."

d. The crossbar ranges from 7 to 12 inches in length and is selected according to the stage of correction and the necessity of angulation.

2. *Strapping.*—

a. Compound tincture of benzoin is applied to the foot.

b. The plate is strapped to the foot with strips of tape applied in a definite pattern to insure perfect apposition. A thin layer of felt should be placed over the dorsum of the foot where most of the corrective force is exerted. No windows are permitted between the strips in order to prevent edema. The taping must be smooth, not too tight, and not too loose.

3. *Starting Treatment.*—

a. Initial treatment should be started during the first weeks of life.

b. The plates are applied to the feet in the deformed position.

c. The crossbar is bent so the apex points cephalad. In this position little correction force is exerted but the flexibility of the feet is considerably improved in the course of a few days and the incidence of dermatitis is greatly diminished.

d. The crossbar may be suspended by an elastic band from a rod across the crib. This encourages the infant to kick and exercise the extremities. While the longitudinal arch is being protected by a bend in the plate, correction of the equinus is started earlier. Suspension is continued until the plates have been brought into considerable external rotation.

e. The plates are removed from the crossbar for periods of 30-60 minutes twice daily in order to rest the feet. If evidence of disturbed circulation appears while the plates are on the bar, the latter is immediately removed. Should improvement in circulation fail the plates are taken off the feet.

4. *Progression of Treatment.*—

a. The strapping is changed every 5 days.

b. The bar is straightened gradually during two or three changes of taping, thus bringing the feet and plates into neutral position in the anteroposterior plane.

c. The plates are then externally rotated and abducted at each session until 90 degrees rotation has been attained.

d. The valgus position is next obtained by gradually bending the bar in the middle so the apex of the "V" points distally. Since this forces the foot into dorsiflexion it is important to keep the plate bent in the midtarsal region to preserve the longitudinal arch.

5. *Maintaining Correction.*—

a. Correction in favorable cases should be obtained in the course of 8 to 10 weeks. In the more severe cases 4 or 5 months of treatment are required before full correction is accomplished.

b. Roentgenographs serve as the most reliable index of complete correction.

c. After correction is complete it is maintained by strapping intermittently. The child wears the splint for 1 week and is without it for 2 or 3 weeks. If the correction is maintained, the periods without splints can be gradually increased.

d. In the more severe cases a molded plaster posterior splint fastened with an ace bandage should be worn at night during the periods when the child is out of the Denis-Browne splint.

e. Shoes can be worn and fastened to the splint as the child grows older, providing full correction has previously been obtained.

f. The feet should be gently manipulated several times daily.

OPERATIVE TREATMENT

Considering the good results obtained by conservative methods in the treatment of the common type of congenital clubfoot, the operative treatment should become necessary only in a minority of cases. Surgical treatment of the deformity is not contemplated until maximum correction has been accomplished by conservative methods. The most frequent residual de-

formity is the supination and the equinus deformity. The failure to correct these components, or the persistent recurrence of the deformity, may be due to short rigid ligaments and tendons or actual bony obstruction. The operative procedures can, therefore, be divided into two groups: (1) Soft structure operations and (2) operations for malformation of the bones.

1. The first group consists of operations such as lengthening of the Achilles tendon of the tibialis and flexor muscles, stripping of the ligamentous structures, and capsulotomies. It is a prerequisite that, before lengthening of the Achilles tendon is undertaken, all other components must have been corrected. The lengthening of the Achilles tendon is indicated when persistent equinus exists and stretching of the tendon is likely to lead to a "rocker bottom" foot. Plastic lengthening is preferable to a subcutaneous tenotomy.

The inversion and adduction deformity requires the release by stripping of the medial ligaments of the foot which hold the foot in varus. Due to the smallness of the foot, it is preferable to wait until the child is 3 years of age before the region is explored by open operation. Overcorrection and immobilization by plaster casts should be continued until the roentgenograms show correction is complete. Leg splints must be worn intermittently and the feet should be gently manipulated several times daily until the muscles become reeducated and relapse does not appear.

2. The second group consists of deformities which cannot be corrected by conservative treatment because of skeletal malformations. The surgical procedures are osteotomies of the tarsus, excochleations, wedge resections, and osteotomy of the os calcis.

Brockman[1] states that bone operations never give satisfactory results and should be carried out only as a last resort. He further states that if surgery is decided upon it should be delayed until as near to puberty as possible.

SUMMARY

1. The exact cause of congenital clubfoot is unknown.

2. Congenital talipes equinovarus constitutes approximately 75 per cent of all deformities of the newborn.

3. There are three types of the deformity:

a. The common type which appears in the otherwise normal infants.

b. A rare type which involves either both lower extremities or the upper limbs as well. Flexion deformities are present in knees and hips.

c. A very rare type in which the tibia and the toes also may be absent.

4. The normal and pathological anatomy has been briefly discussed.

5. The common type of congenital clubfoot can be treated conservatively and successfully in about 90 per cent of cases in early childhood. The other 10 per cent will need surgery in combination with conservative treatment.

6. The second type of congenital clubfoot is extremely resistant to any form of treatment and the results are disappointing.

7. The third type of the deformity is usually treated by amputation when the child grows older.

8. Forceful manipulation, delay in starting the treatment, ineffective immobilization, and incomplete correction of the deformity lead to a lower percentage of cures.

9. The use of roentgenograms in ascertaining complete correction obviates a large percentage of the so-called cases of relapse.

10. The treatment by plaster casts and wedgings originated by Kite has been discussed.

11. An alternate method of immobilization by the use of plaster bandage strips has been suggested as a safe procedure for the general practitioner.

12. The modified Denis-Browne splint can be used successfully and with relative safety as the sole corrective force in the early treatment of congenital clubfoot, providing meticulous attention is given to all phases of the technic.

13. The operative treatment is reserved for cases that fail to respond to conservative treatment. The procedures can be divided into two groups: (a) Soft structure operations and (b) operations for malformation of the bones.

14. Success in the treatment of congenital clubfoot depends upon early efficient therapy diligently and patiently applied.

460 Staten Ave.

REFERENCES

1. Brockman, E. P.: Congenital club-foot. William Wood & Co., New York, 1930.

2. Kite, J. H.: Congenital clubfoot, in Surgical treatment of the motor-skeletal system, edited by F. W. Bancroft and C. R. Murray. J. B. Lippincott Co., Philadelphia, 1945, sect. 1, pp. 76-93.

3. Kite, J. H.: Treatment of congenital club-feet. Surg., Gynec. & Obst. 61:190-200, Aug. 1935.

4. Browne, D.: Modern methods of treatment of club-foot. Brit. M. J. 2:570-572, Sept. 18, 1937.

5. Thomson, S. A.: Treatment of congenital talipes equinovarus with a modification of Denis Browne method and splint. J. Bone & Joint Surg. 24:291-298, April 1942.

6. Bell, J. F., and Grice, D. S.: Treatment of congenital talipes equinovarus with the modified Denis Browne splint. J. Bone & Joint Surg. 26:799-811, Oct. 1944.

7. Blumenfeld, I., Kaplan, N., and Hicks, E. O.: Conservative treatment of congenital talipes equinovarus. J. Bone & Joint Surg. 28:765-777, Oct. 1946.

8. Zecchino, V.: Cited by Bell and Grice, *op. cit.*, ref. 6, p. 807.

ADDITIONAL REFERENCES

Campbell's Operative orthopedics, edited by J. S. Speed and H. Smith. Ed. 2. C. V. Mosby Co., St. Louis, 1949, pp. 1566-1575.

Lewin, P.: Foot and ankle. Ed. 3. W. B. Saunders Co., Philadelphia, 1947, pp. 138-151.

McMurray, T. P.: Practice of orthopedic surgery. Ed. 2. Williams & Wilkins Co., Baltimore, 1943, pp. 352-359.

Mercer, W.: Orthopedic surgery. Ed. 3. Williams & Wilkins Co., Baltimore, 1943, pp. 43-54.

Shands, A. R., Jr., and Raney, R. B.: Handbook of orthopaedic surgery. Ed. 2. C. V. Mosby Co., St. Louis, 1940, pp. 34-43.

Steindler, A: Orthopedic operations. Charles C Thomas, Springfield, Ill., 1940, pp. 449-459.

Journal A.O.A.
Vol. 50, No. 4

Fracture of the Femoral Neck*

HAROLD E. CLYBOURNE, D.O., F.A.C.O.S.
Columbus, Ohio

The problem of the fractured femoral neck is one which has been the subject of considerable thought and study. In addition to presenting an involved anatomical problem, it is complicated by the fact that it usually occurs in elderly people.

The history of the various types of treatment attempted for this condition is very interesting. At the end of the eighteenth century, Pott[1] devised a splint whereby traction could be applied to the fractured femoral neck with the leg in flexion. It was shortly after this time that Cooper[2] first distinguished between fractures through the neck, intracapsular, and fractures through the trochanteric levels, extracapsular. He established the fact that the intracapsular fractures gave a very poor prognosis in reference to bone union while the extracapsular fracture gave a good prognosis for bone union *if* the patient lived. Pott's method was used until 1867 when Smith[3] devised a suspension apparatus which differs but little from the modern suspension traction system now in use for fractures of the femoral shaft.

In 1902 Royal Whitman[4] published his paper, which for the first time presented a procedure for the reduction of the fragments, based upon a rational anatomical analysis of the peculiar conformation of the proximal end of the femur. Simple abduction had been used before in attempted reductions but never in combination with the internal rotation and traction under anesthesia. Whitman advocated holding the limb in position following reduction with a long plaster spica reaching from the nipple line to the toes of the affected limb. In 1911 Cotton[5] advocated artificial impaction of the fragments by striking the trochanter with a large mallet over a pad. In 1927 Wilkie[6] developed the first traction system which utilized the well leg for counter traction. This was not well received but in 1932 Roger Anderson[7] revived the method and developed his widely known well-leg splint which is in use at the present time.

Royal Whitman[8] first practiced surgery on the hip for nonunion cases. However, as early as 1850, Langenbeck[9] attempted to transfix a fractured femoral head by means of a nail driven through the trochanter. Lambotte[10] used ordinary screws in 1907. Bone pegs were tried in place of metal screws and nails by Albee in 1912[11] but this method was discarded because of the poor results. In 1920 George Laughlin at Kirksville was nailing hips, using an ordinary spike for fixation. In 1931 Smith-Petersen[12] reported nailing of the hip under direct vision but used a three-flanged nail which was designed to eliminate the frequent postoperative rotation of the head. In 1932 Wescott[13] published a preliminary report of a blind nailing technic in which the entire procedure was done under x-ray control. In 1934 Henderson[14] used a calibrated Kirschner wire to guide the nail. The outgrowth of this was the cannulated nail to be used over the guide wire.

From this period progress has been rapid with many different methods of guiding the nail or screw being developed. Watson-Jones[15] reported in 1943 that fifty different methods have been developed. Today there are almost as many methods and modifications in hip surgery as there are orthopedic surgeons doing this type of work.

The changes which occur in the femoral neck with advancing age are the most important predisposing causes of fractures in this region. These changes consist of a variable amount of absorption of the bony framework of the neck. They lead to rarefaction of the cancellous bone with replacement by a fatty marrow and thinning of the cortex, thereby causing a weakening of the structure. There is also a general loss of elasticity and the development of a brittleness of the bone which accompany advancing years.

The reflexes of older persons are less rapid and their muscles are more apt to be caught off guard, producing sudden and unusual strains. Because of this, older people fall more frequently than younger ones. This accident occurs more frequently among women than among men.

Because of the usually advanced age of patients with fractures of the femoral neck, the mortality rate has been high and end results have been very poor. However, many of the poor results are due to the fact that most physicians, aware of the high mortality rate, do little to obtain a good end result. They confine their treatment to sandbagging the hip or to the use of Buck's extension, in the hope that the patient's being raised to a sitting position daily will prevent development of hypostatic pneumonia or any of the other conditions which arise when an elderly person is forced to be kept in a reclining position.

Casting does not give a much better prognosis; Whitman claimed bony union in only 40 per cent of his cases treated by reduction and casting. However, since the development of Smith-Petersen's three-flanged nail in conjunction with open reduction and fixation, the mortality rate has dropped amazingly while the bony union rate has climbed from 40 to 75 per cent. With the advent of the closed or blind method of nailing, the mortality rate dropped further and the bony union percentage climbed to around a constant 90 per cent.

There have been many classifications of fractures of the neck of the femur, but the trend recently has been to classify them according to the anatomical location: Central or subcapital, transcervical, basal, and intertrochanteric fractures. Union is generally obtained in basal and intertrochanteric fractures but is less frequent in the central and transcervical types unless they are well immobilized.

SYMPTOMS AND DIAGNOSIS[16]

The classical symptoms of fracture of the upper end of the femur are pain and disability at the hip joint with some shortening and eversion of the injured limb in a position of external rotation and slight abduction, so that the limb gives the appearance of a flaccid paralysis.

The history is characteristically one of slight violence in old people. The strain or violence is generally of a rotational type caused by stumbling with the foot fixed against an object, such as a step, a chair, or a rug. *Any elderly person who sustains a fall from which*

*Presented at the annual meeting of the American Osteopathic Academy of Orthopedics, Des Moines, Iowa, October 15-19, 1950.

he is unable to rise, and after which the use of one leg is lost, has, in all probability, a fracture in the upper end of the femur and should not attempt to bear weight until x-ray examination has ruled out fracture.

Disability is generally complete. The patient is unable to support his weight on the limb or to lift the heel of the injured limb from the bed. However, it is to be remembered that with incomplete or with firmly impacted fractures, the patient can raise the heel from the bed and, in some cases, bear weight. The absence of complete disability in the hip does not rule out the possibility of fracture. Shortening may be very slight or absent, but in most cases there is actually a half to a full inch of shortening.

Pain varies in intensity and location in different types of fractures as well as with different individuals. Trochanteric fractures tend to cause considerable pain, while those through the neck cause relatively little pain unless the extremity is moved.

Swelling is always present to some degree in fracture of the hip. The upper thigh appears to be broadened and thickened. Ecchymosis generally appears below Poupart's ligament or in the posterior thigh and buttocks a day or two after injury. Tenderness is always present and is a very important diagnostic sign. In fractures through the neck it is most acute over the front of the joint, while in trochanteric fractures it is most acute over the trochanteric area.

TREATMENT

The two main objectives of treatment for fracture of the neck of the femur are to save life and to restore function to the hip joint. Immediate treatment is to conserve the patient's strength in every possible manner. Enough morphine or codeine to relieve all pain should be given, unless some systemic condition contraindicates their use. The patient must be handled carefully so as not to cause any unnecessary pain or trauma. Whenever possible, the patient should be transported by ambulance to the hospital where special equipment is on hand to facilitate care. If the patient is in shock or is in poor physical condition, Buck's extension with 15 pounds traction should be applied, and the extremity should be immobilized with sandbags while supportive treatment is carried out.

As soon as the patient is considered to be in suitable condition, the fracture should be reduced and internal fixation done under local, general, or spinal anesthesia. Internal fixation with the Smith-Petersen nail, the Moore pins, the Lorenzo screw, the lag screw, or several other adaptations have largely supplanted the nonoperative or conservative methods for treating fractures of the hip.

The abduction method of Whitman[17] is the simplest method for the reduction. In impacted fracture the impaction should always be broken up and reduced, after which they should be handled in the same manner as any other hip fracture. This method is based on the theory that if a fracture through the neck of the femur is accurately reduced, immobilization of the extremity in the position of full abduction, internal rotation, and extension, jams the fractured surfaces together and maintains immobilization. The abduction and internal rotation swing the stump of the neck inward toward the acetabulum on the Y ligament, like a fulcrum, and the capsule of the hip joint is tightened around both fragments like a sleeve.

To obtain reduction, the patient is placed on a fracture table equipped with a perineal post and a pelvic support. By manual traction the injured extremity is pulled down until it is the same length as its fellow, thus reducing the upward displacement. Traction is also applied to the well leg to offset the traction on the injured one and thus immobilize the pelvis.

The upper portion of the thigh is lifted to the level of the sound thigh to reduce the posterior displacement. This point is often neglected. The thigh should not only be lifted up, but should be pulled laterally as well to enable the distal fragment to clear the proximal one.

The limb is then slowly rotated inward to a point slightly beyond the neutral position. Both limbs are then slowly abducted equally to full limit. X-rays are then taken in the anteroposterior and lateral planes to determine whether the fracture is properly reduced. If not, the above procedure must be repeated.

If the fracture is fully reduced the following tests will show it:

1. Full abduction (equal to that of the sound leg) can be obtained and maintained without undue force.
2. In the position of full abduction the hip should be stable as regards length; that is, no traction should be necessary to prevent the distal fragment from slipping upward (shortening recurring).
3. In a position of full abduction, the hip should be stable as regards rotation; that is, no force should be necessary to prevent the extremity from rolling outward.[17]

After the above tests and x-rays show the reduction to be complete, internal fixation should be applied. Our experience at Doctors Hospital (Columbus, Ohio) has been that we have had better results from using the Lorenzo screw with the Bailey block as a guide than with the Engle-May guide and the Smith-Petersen nails, the Moore pins, etc.

The Bailey block is used to obtain accurate introduction of the Kirschner calibrated pin through the fragments. The technic for its use is based upon the following two anatomical facts: The anterior surface of the neck of the femur is a comparatively flat plane extending onto the anterior surface of the shaft immediately below the greater trochanter. A line through the center of the neck passes ½ inch behind this plane and emerges from the outer surface of the femur ½ inch below the lower border of the greater trochanter, under cover of the origin of the vastus externus muscle. Therefore, by means of the Bailey block guide a 3/32 inch calibrated Kirschner wire is drilled into the axis of the neck and passes anatomically ½ inch behind its anterior surface.

The following procedure has been developed at Doctors Hospital over the past 10 years and is working out quite well for us. The patient is placed on the Bell fracture table and the well leg is fastened to the foot extension apparatus. After the patient is anesthetized the injured leg is also fastened down, followed by the use of traction, abduction, and internal rotation applied simultaneously. One portable x-ray machine is set up under the injured hip and another one is set up at the foot of the table so as to obtain both anteroposterior and lateral x-rays, thus saving time and confusion. X-ray checks are made in two planes and while these films are being developed the first assistant prepares and drapes the hip.

If the x-rays show the reduction to be correct in two planes, an incision 3 inches long is made along the line of the femur, commencing over the middle of the greater trochanter. The skin and fascia lata are divided and the vastus externus is exposed. The fibers of this muscle are divided longitudinally and the bone is bared for 1 inch immediately below the lower border of the greater trochanter. The blade of the Bailey block is

then inserted along the anterior surface of the neck, keeping well on to the bone until the block is brought into apposition with the shaft of the femur in the space cleared. The block is felt to lock against the side of the bone and is then pressed upward to insure that it is immediately below the trochanteric attachment of the vastus externus. This will prevent it from riding any higher on the bone. The blade should now lie over the center of the neck and may be checked for position by palpating the lower edge of the intertrochanteric bridge at the angle of the neck. This should be one finger's breadth below the blade. An assistant then holds the Bailey block in place while a calibrated Kirschner wire is drilled through the center guide hole in the block. The Bailey block is then withdrawn leaving the pin in position.

X-rays are again taken in the anteroposterior and lateral planes for further check on the position of the pin and for estimation of the length of the Lorenzo screw needed. In the majority of cases, the pin will be found to be in a midposition. Should, however, the pin be a fraction too high or too low, the Bailey block is replaced over the pin and a second pin is inserted through the appropriate guide hole parallel to the first pin. The first pin is then withdrawn and the Lorenzo screw is inserted over the guide pin and screwed down into position. As the screw goes into the head, the fragments are drawn together tightly and held in this position.

When the head of the screw is flush with the cortex of the bone, two more x-rays are made in the anteroposterior and lateral planes for further check on the position of the fragments and the location of the screw in relation to them and to the cortex of the femoral head. If these films show everything to be in good position the pin is withdrawn and the edges of the vastus externus are brought together over the neck of the screw and the exposed bone, using No. 00 chromic catgut interrupted sutures. The fascia is then closed with No. 00 chromic catgut interrupted sutures, and the skin is closed with No. 30 cotton.

If the fracture is nearer the distal than the proximal end of the neck, a trochanteric plate is applied to the screw and to the shaft of the femur. Plaster of paris boots are applied to both feet with a spreader bar between them to hold the feet in the proper position. They have been found to give the patient considerable comfort and are left on for 7 to 10 days. Following the application of the boots the patient is returned to his room. The following day he is raised to a sitting position, the hospital bed being broken at the knees so that some flexion is obtained. On the third day the patient is placed in a wheel chair for a short period and from then on the amount of time spent up depends upon the patient's own wishes. After the boots are removed the patient is started on leg exercises consisting of contraction of the quadriceps group, abduction and adduction, flexion and extension.

While these patients are not confined in casts, they are impressed with the fact that they must not bear weight upon the injured leg for 10 weeks or until x-rays show that the fracture is well healed. The internal method of fixation is not a short cut to weight bearing but is simply used to do away with the dangers and discomforts of casts.

Three complications are encountered in the treatment of fractures of the neck of the femur and should always be remembered when a case of this type is being handled. The first of these is necrosis of the head of the femur. Aseptic necrosis is thought to be of avascular origin following injury to the blood supply of the head at the time of injury. This condition generally becomes apparent on x-ray examination during the sixth week following the accident. In some cases, it is possible for revascularization of the head to occur from several months to a year after the injury. During this period, the head may become softened and deformed or may disintegrate to a variable degree. This is aggravated by weight bearing. Another complication is that of nonunion which x-ray shows as atrophy of the neck with an increase in the gap between the fragments. This must be treated by reoperation and internal fixation. The last complication is osteoarthritis of the hip joint which is a frequent end result after any method of treatment for this condition.

Today, thanks to the pioneering work done by Smith-Petersen and to the introduction of nails and screws made of stainless steel and vitallium which cause no tissue reaction, patients with fracture of the femoral neck can be cared for in such a manner that their convalescence is comfortable and the chances of obtaining a well-functioning hip are good. Although this type of injury usually occurs in elderly people, age is not a deterring factor in the application of this type of treatment. Even patients up to 92 years of age have been successfully operated on with good end results.

83 S. High St.

REFERENCES

1. Pott, P.: Fractures and dislocations. Howes, London, 1769.
2. Cooper, A. P.: A treatise on dislocations and fractures of the joints. Ed. 2. Published by the author, London, 1823.
3. Smith, N. R.: Treatment of fractures of the lower extremity. Kelly and Piet, Baltimore, 1867.
4. Whitman, R.: A new method of treatment of fracture of the neck of the femur, together with remarks on coxa vara. Ann. Surg. 36:746-761, Nov. 1902.
5. Cotton, F. J.: Hip fractures and their treatment. Boston M. & Surg. J. 170:718, 1914.
6. Wilkie, D. P. D.: Treatment of fracture of neck of femur. Surg., Gynec. & Obst. 44:529-530, April (pt. 1) 1927.
7. Anderson, R.: Well-leg countertraction method; details of technique. Am. J. Surg. 18:36-50, Oct. 1932.
8. Whitman, R.: Reconstruction operation for ununited fracture of neck of femur. Ann. Surg. 73:245-247, Feb. 1921.
9. Bick, E. M.: Source book of orthopaedics. Williams & Wilkins Co., Baltimore, 1937, p. 184.
10. *Op. cit.*, ref. 9, p. 182.
11. Albee, F. H.: Bone graft peg in treatment of fractures of neck of femur: author's technic. Ann. Surg. 62:85, July 1915.
12. Smith-Petersen, M. N., Cave, E. F., and Vangorder, G. W.: Intracapsular fractures of neck of femur; treatment by internal fixation. Arch. Surg. 23:715-759, Nov. 1931.
13. Wescott, H. H.: Preliminary report of method of internal fixation of transcervical fractures of neck of femur in aged. Virginia M. Monthly 59:197-204, July 1932.
14. Henderson, M. S.: Recent fracture of hip; Smith-Petersen nail inserted over Kirschner wire. Proc. Staff Meet. Mayo Clin. 9:203-205, April 4, 1934.
15. Watson-Jones, R.: Fractures and joint injuries. Ed. 3. William Wood & Co., Baltimore, 1943.
16. Key, J. A., and Conwell, H. E.: Management of fractures, dislocations, and sprains. Ed. 4. C. V. Mosby Co., St. Louis, 1946, pp. 939-943.
17. *Op. cit.*, ref. 16, pp. 948-952.

ADDITIONAL REFERENCES

Bonnin, J. G.: A complete outline of fractures. Grune & Stratton, New York, 1942.

Scudder, C. L.: Treatment of fractures. Ed. 11. W. B. Saunders Co., Philadelphia, 1938.

Orthopedic Supplement
Vol. 6, No. 1, December, 1950

Details in Orthopedic Practice*

JAMES M. EATON, D.O., F.A.C.O.S.

Professor of Orthopedic Surgery and
Chairman of the Department of Surgery
Philadelphia College of Osteopathy

Philadelphia

The armamentarium of the orthopedic surgeon must of necessity include a great deal of knowledge of both his specialty and the healing arts in general and, in addition, he must have a great deal of manual dexterity and mechanical ingenuity to aid in solving the perplexing problems with which he is confronted daily. This last is perhaps the phase of orthopedic practice which makes it most fascinating.

A thorough knowledge of anatomy, normal and abnormal physiology, as well as chemistry (particularly in the light of present antibiotic therapy) are most essential to the background and training of the orthopedic surgeon. Without this knowledge he is a mariner on a stormy sea without map or compass. There are no short cuts to this knowledge and it must be a working knowledge of a practical nature.

In all branches of the healing arts the successful practitioner must of necessity be a practical psychologist, and every branch has its own peculiar psychological problems. It is my opinion that unless the practice of orthopedic surgery is correlated with such practical psychology the orthopedist can not have peace of mind or satisfied patients.

It has been my practice to discuss the problems related to an individual case with frankness and thoroughness, which I believe has been greatly appreciated by the family or by the patient. I believe that the physician should always discuss all phases of the case with the patient or, if he is a minor, with his family. This conversation, couched in easily understood terminology, should cover not only the diagnosis, but also individual problems, and the possibilities of failure and success. One must be optimistic in his approach if he wishes to succeed, but in all fairness to both doctor and patient, the patient should be informed of the possible failure, which occurs all too often in orthopedic deformities and diseases.

To the younger men in the audience I make the plea to be frank and honest with patients and their families. If you are honest with them you will avoid many of the medicolegal problems which seem to dog the footsteps of the orthopedic profession. You must be able to afford the risk of losing the occasional patient after presenting all facets of his case. It is far better to lose a disgruntled patient at this phase than to have him appear later as a plaintiff in a malpractice suit.

In the practice of orthopedic surgery, there is one rule that is uppermost in my mind—there must be the greatest attention to details, not only those related to the body area under immediate scrutiny, but also those related to the patient as a whole. It is altogether fitting and proper that you approach the problem at hand with a great deal of professional and scientific accuracy, but do not fail to be human. If we all followed the Golden Rule in this connection, I believe that our experiences in practice would be greatly enriched by appreciative and grateful patients.

In preparing this paper, I am not attempting any systematic review but rather I shall present problems that I have encountered in orthopedic practice and the results of my experience. Perhaps that which I present will not be new or different, but it has been tried and found practical.

FRACTURES OF THE FEMORAL NECK

I believe one of the greatest problems in orthopedic surgery is what has been aptly called "the unsolved fracture" and comprises the fractures which affect the cervical portion of the femur. These fractures account for the majority of failures encountered in my own practice. These failures may have been technical on my part, but are nonetheless directly due to the peculiarities of the cervical section of the femur and its surrounding tissues.

In the management of transcervical fractures of the femur from the subcapitate region to the intertrochanteric type of fracture, one cannot give too much attention to detail, and if the surgeon is not extremely careful he generally will have indifferent results. The reduction of these fractures I believe to be most important. It should be carried out carefully, but with a degree of certainty that approaches mathematical accuracy. Failures in proper reduction before specific types of fixation are applied will almost surely result in malunion. The more accurately the fracture can be reduced and the more accurately it is fixed, the greater will be the chance of successful healing.

In the placement of any internal fixation device in transcervical fractures, the greatest attention to detail and mathematical accuracy must be given if results are to be satisfactory. Another point to be remembered is that it is far better to discover an improperly placed internal fixation device immediately and to replace it at the time the patient is in the hospital than to wait until some future time to make the discovery.

The age of the patient suffering femoral neck fractures has been a source of great concern, but my experience has shown that elderly patients must of necessity have been in fairly good health to have reached the age at which they present themselves with fractures. Therefore, advanced age should not interfere with ultimate healing processes if the physician's work is done satisfactorily. The transcervical fractures that occur in patients under the age of 50 suggest the possibility of some metabolic pathology which is not always understood, and in my experience fractures at this age period have a poorer chance of healing than the same type of fracture in the elderly patient.

For many years heavy screws and nails with a multiplicity of plates were employed in these fractures for internal fixation. The shock and hemorrhage which occurred as the result of this surgery were, in themselves, a drawback. For some time now, I have been using a technic of transfixing the fracture zone with several Knowles pins, and I am greatly impressed by the simplicity and rapidity of the procedure, the satisfactory manner in which these pins will produce the desired internal fixation, and the fact that the

*Presented before the annual meeting of the American Osteopathic Academy of Orthopedics, Des Moines, Iowa, October 15, 1950.

patient will only lose a few drops of blood from the miniature incisions which are necessary. The only shock that the patient apparently experiences is that from the anesthetic agent. I have used almost routinely "one-shot spinal" which the anesthetist estimates will give good anesthesia for a period from 20 to 30 minutes. The work, of course, must be done under fluoroscopic and radiographic control, and the usual anteroposterior and lateral studies must be made to be sure of proper fixation of the transfixing pins. Patients have a minimum of distress and disability following this type of fixation and are able to sit up within a day or so after surgery without too much distress.

I do not allow my patients with transcervical fractures to bear weight on the involved side until such time that there is radiological evidence of healing. I believe that too early ambulation and weight bearing is the cause of as many failures as is lack of proper blood supply to the area of fracture. The shearing forces developed by weight bearing will do more to produce a nonunion than any other single factor. This may mean that patients will have to refrain from weight bearing on the involved extremity for a period varying from 6 months to a year or more, but if they do so their patience will be be rewarded. I allow these patients to be weight bearing on the uninvolved foot and, if they are physically able to use crutches or an ambulant walker, I frequently apply a well-leg lift to insure lack of damage by accidental pressure or weight bearing on the involved side. The exercise which the patient gets will greatly benefit the musculature of the involved side, without the danger of weight bearing.

UNUNITED TRANSCERVICAL FEMORAL FRACTURES

If not careful, the orthopedic surgeon can be lost in the maze of operative procedures which have been designed to manage the patient who suffers from an ununited fracture of the neck of the femur. The multiplicity of procedures advocated for this particular involvement is evidence of the lack of understanding and the unsatisfactory management of the problem as a whole. The more clearly a given subject is understood the fewer will be the procedures recommended and used in its management. The ununited fracture of the femoral neck is not understood and possibly will not be for many years to come.

I have tried many of the procedures advocated for the treatment of nonunion of the transcervical femoral fractures, but now I employ almost exclusively, whether or not there is aseptic necrosis of the femoral head, a high subtrochanteric osteotomy and internal fixation with a curved double angle Blount plate. I find that this mechanical device is most helpful in maintaining the transposed position of the trochanter in relation to the femoral shaft and obviates the necessity of a plaster-of-paris cast. Many patients are old and immobilization is dangerous; hence any procedure which is effective and which avoids immobilization should be considered.

I have found that following surgery in cases of nonunion results have been much better and that the position of the structures of the proximal femur remains as desired, if the involved extremity is kept in an attitude of 40 degrees of abduction for 2 weeks postoperatively. A Thomas splint is used for this purpose, with care to prevent pressure to the Achilles tendon and heel as well as to maintain the foot in a neutral position. X-ray studies are taken at the bedside at the end of 2 weeks, and the position of the fragments is determined. The limb is then adducted and brought to the midline within 24 to 48 hours, after which the Thomas splint is removed and the patient encouraged in voluntary exercises of the involved extremity while in bed and not weight-bearing. By the end of 2 weeks, as a rule, primary union has been established to the point that it will maintain satisfactory position with the aid of the Blount plate. Weight bearing is not allowed until there is radiologic evidence of healing of the osteotomy. No great attention is paid to the femur head which is allowed to remain within the acetabulum. If the neck of the femur presents any spicules of bones which might interfere with the proper mechanics of the osteotomy, they should be removed at the time of surgery, but if they are small and nubblike they are left alone.

Under ordinary circumstances it is possible to get these patients weight-bearing in 6 to 7 weeks after osteotomy. There will be a limp due to shortening, but this is far better than a prolonged period of disability in bed or in a wheel chair or the painful disability of an ununited fracture.

I have employed for all patients who have disabilities of the lower extremities, a simple device to maintain the relative neutral position of the foot and, of course, to prevent rotation of the extremity as a whole while the patient is confied to bed. The apparatus is simply a piece of wood which measures 1 by 1 by 8 inches, which is firmly attached transversely to the heel of an old shoe which is placed on the foot of the patient. By means of proper placement of the block of wood across the heel, it is possible for the foot to be maintained in a neutral attitude and to prevent rotation while the patient has full control and actively exercises the other joints of the extremity. The only caution is that the patient or a member of the nursing staff should remove the shoe and bathe and powder the foot twice daily, because of the possibility of pressure necrosis.

LEGG-PERTHES DISEASE

One of the greatest problems that the orthopedist will encounter in children, or perhaps the most prevalent problem he will encounter in children of affections of the hip joint, is the variant of the osteochondroses known as Legg-Perthes disease, osteochondritis deformans coxae juvenilis. I believe that experience will show that enforced recumbency is by far the best method to insure prolonged freedom from weight bearing in these cases, and for this purpose the plaster-of-paris hip spica is the most satisfactory type of fixation. Prolonged non-weight bearing gives the best chance for the restoration of bone structure and healing of the necrosis which affects the capitate epiphysis of the femur. One must of necessity evaluate the patient as to his ability to cooperate, as well as evaluating the parents. In the long run it is best to take nothing for granted and to follow out a program that will insure recumbency. Unilateral hip spicas are satisfactory in most cases, but a bilateral hip spica is the surest method for immobilization. I would also like to mention in this connection that the foot on the involved side should be included in the plaster-of-paris hip spica to protect it from the weight of the bedclothes and natural dependency and to prevent shortening of the Achilles tendon or a drop foot.

My experiences indicate that there is one factor which is not stressed too much in the literature with regards to Legg-Perthes disease. The gross appearance of the femoral head is not in keeping with the

x-ray appearance. It should be borne in mind that the changes demonstrated on x-ray study are changes in the subchondral bone and the articular cartilages are not particularly affected unless weight bearing has provided the mechanism necessary to collapse and deform the femoral head. If weight bearing can be prevented, the articular cartilage will not be particularly affected and when healing takes place and there is sufficient support to the cartilaginous structures of the joint, there will be little or no deformity of the femoral head and no tendency to develop the osteoarthritis which so frequently occurs in neglected cases. I also suggest to you the use of multiple trochanterocervicocapitate drilling under fluoroscopic control as a means of stimulating osteogenesis and healing of this osteochondrosis. This procedure must of necessity, as all others in this type of involvement, be followed by adequate immobilization in a bilateral plaster-of-paris hip spica.

Such immobilization must be continued until there is x-ray evidence of regeneration of the subchondral bone of the capitate epiphysis. This may occupy a period from 6 months to as much as 2 years. The parents should be acquainted at the beginning of treatment of the necessity of immobilization and non-weight bearing. If they are willing and able to cooperate, one can almost promise complete restoration of a functional hip joint that appears to be anatomically satisfactory. However, the widening of the femoral neck is apparently not too much affected by the non-weight-bearing treatment, and although this does not appear to affect materially the use of the involved joint it is a factor worth noting.

UNEQUAL LEG LENGTH

In all affections of the lower extremities, such as involvements of the hip joint, fractures of the shafts of the bones, dislocations, et cetera, the patient, after he is able to be weight-bearing without any weakness of the involved side, should be checked for functional postural defects brought about either by shortening or lengthening of either extremity and producing altered mechanics in the superincumbent lumbar and dorsal spine. This can readily be done by erect film studies of the dorsal and lumbar spine and pelvis. It may be necessary to repeat these studies at intervals depending upon the individual case. It has been my practice to have these patients return at yearly intervals for such studies if there is no evidence of any deficiency in extremity length or oftener if lift therapy is employed. I have these patients return at 3- to 6-month intervals and have their film studies made wearing the corrective lift.

In speaking of lift therapy I would like to call to your attention a very clever device (Tru-Lift) invented by J. Anthony Kelly, osteopathic physician, which measures very accurately the height of the shoe heel and is very useful for the shoemaker in applying the lift recommended and also in determining differences in the height of heels of apparently normal shoes. In surveying a large number of shoes of varying ages, that have not had any corrective devices applied, I have found that they frequently vary as much as ¼ inch in their relative weight-bearing height, without the knowledge of the patient. The radiologist may be extremely careful and accurate in estimating the correct amount of lift necessary to compensate for altered mechanics in the lumbar spine, but his measurements will not be of much value unless they can be followed accurately. I believe the instrument, Tru-Lift, makes it possible to do so satisfactorily.

Patients with a great difference in leg length frequently inquire about the possibility of avoiding a shoe with an unsightly lift. For patients who wear a lift in excess of ¾ inch, I recommend serious consideration of partial ostectomy of one or more of the long bones to shorten the long leg. Such operations enable patients to walk in a comparatively normal manner without the use of a heavy lift. I have performed such ostectomies on quite a few patients, and have made one observation that should have been made in the beginning but for some reason or other was not. Femoral osteotomies, when performed for this or any other purpose, should avoid the central portion of the shaft which is frequently the site of the nutrient artery, because invariably nonunion and aseptic necrosis will occur if this area is violated. Osteotomies, for the correction of deformities in the lower extremity or for shortening purposes, should occur either in the subtrochanteric areas or just above the condyles at the lower end of the femur or at either end of the tibia and fibula. These areas heal very rapidly and as a rule there is little or no danger except from the possibility of infection which is not very common today with the use of antibiotics.

Of course, patients who undergo such plastic surgery must be immobilized and weight bearing must not be permitted until such time that there is radiologic evidence of healing of the osteotomy.

DISORDERS OF THE KNEE

In the consideration of the knee, fractures of the patella are one of the interesting involvements. It must be borne in mind that the fracture of the patella itself is relatively unimportant in comparison to the injury and laceration to the capsular ligaments of the knee. Probably the best method of approach to these particular cases is to excise the lower fragment of the patella, clean out the hemarthrosis which almost invariably exists, and repair the laceration to the capsular ligaments. This procedure, in contrast to attempts at uniting the fractured patella, decreases the period of disability and encourages early restoration of function which, as we all know, is most important in involvements of this particular joint. Patients may safely become ambulatory within 2 to 3 weeks postoperatively, and early voluntary motion can be established as soon as the postoperative pain has subsided without danger of rupturing the capsular repair.

In my experience the value of early ambulation following arthrotomy of the knee for meniscectomy has been proved. It has been my practice for some time to allow patients to be ambulatory on the third to the fifth day postoperatively or as soon as their postoperative pain subsides, and I have found that such early ambulation definitely reduces the postoperative disability and apparently does not cause any instability of the joint. I also recommend in this operation that the patient be encouraged in the early institution of quadriceps exercises and voluntary motion of the joint while he is in bed. If these patients, and in fact any patients who have been in bed for long periods, are able to voluntarily control and fully extend the knee, they will have no difficulty in walking or bearing their weight on the involved extremity. It is only when the patient is unable to extend his knee fully that he has weakness and the knee will give way beneath him on weight-bearing. This can be avoided if the patient will

cooperate and indulge in these quadriceps exercises while in bed.

FOOT DEFORMITIES

For the management of hallux valgus, I have used for some years a very simple approach on the dorsum of the foot with the incision just lateral to the extensor tendon of the great toe between the head of the first and second metatarsal bones for the removal of the lateral sesamoid bone which is usually displaced. The attachment of the tendon of the adductor hallucis can easily be determined from this dorsal incision and severed. I have not found it necessary to replace or reattach this tendon as some authors recommend. Next the incision is reflected mesially and the skin reflected from the surface of the capsule, while the extensor tendons of the great toe are dissected from the capsule and reflected laterally. This exposure gives adequate control of the approach to the first metatarsophalangeal articulation for the plastic procedures that must be carried out on the head of the first metatarsal and sometimes the proximal phalanx.

Postoperatively these patients are on their feet in 3 to 5 days, or sooner if pain does not interfere. I usually employ a splint applied to the mesial aspect of the foot to immobilize the great toe, which I believe materially decreases postoperative pain and aids in the restoration of the normal relation of the first metatarsophalangeal articulation. The splint is usually kept in place for 1 week and then discarded.

It has been my experience that early ambulation insures good motion in the involved joint and in no wise interferes with the desired end result. The dorsal incision has many advantages over incisions on the mesial aspect of the joint and on the plantar surface of the foot. The incision usually heals very rapidly and without incident, and it is a rare shoe that will press directly on this incision and cause incisional pain. With incisions on the plantar surface of the foot, although they may make the approach to the sesamoid and the adductor hallucis tendon easier, there is a pressure problem and delayed healing. Incisions on the mesial aspect of the joint are also subject to pressure from the shoe. I have observed quite a few mesial incisions which caused the patient to complain quite bitterly of postoperative pain.

Simple tenotomy of the extensor tendons of the lesser toes for the correction of hammer toe deformities is only mentioned to be condemned as practically worthless. In most instances the patient will have recurrence if this is the only approach to the problem. I have found that the only way that a hammer toe deformity can be successfully reduced and the reduction maintained is by a procedure in which arthrodesis is carried out on the distal and proximal phalangeal articulations and the toe held in the desired position of correction by means of intramedullary pinning with Kirschner wire. The period of convalescence occupies approximately 5 weeks, but the result is successful.

I have had only one complication from this procedure, an aseptic necrosis which was probably due to poor selection of the patient in whose feet arteriosclerotic changes were demonstrated. I doubt very much the advisability of surgery to the foot, if one expects a functional result, in the patient who suffers from widespread arthritic or arthrotic changes throughout the tarsal and metatarsophalangeal regions.

Most of the patients who have involvement of the toes exhibit a metartarsal subluxation which, if not corrected, will frequently give rise to postoperative complications that are just as severe and painful as the original complaint. It has been my practice for some time, in the presence of metatarsal subluxation, to include in the procedure of arthrodesis of the hammer toe a resection of the involved metatarsal heads. This procedure has been most satisfactory as far as the end result is concerned. I frequently find it necessary to remove two or more metatarsal heads. Postoperatively, when he begins weight-bearing, the patient should be fitted with a suitable metatarsal arch support. As a rule the results are satisfactory.

Frequently the orthopedist sees patients with metatarsal subluxation and the painful complication of a plantar wart or a painful callus on the metatarsal pad. If the metatarsal arch cannot be elevated by conservative means one should seriously consider, in either of these problems, resection of the metatarsal head as it is most important and almost imperative that pressure on the involved area be relieved.

FRACTURE OF THE DISTAL RADIUS

A very common fracture deformity which the orthopedist sees is that following fracture of the distal radius and deformity will surely follow fracture unless the case has been handled properly. In the consideration of fractures of the distal radius, one must keep in mind that for return of function of the wrist and hand, the length of the radius must be maintained or restored. This, of course, implies that any telescoping or impaction of the fracture zone must be reduced to restore the length of the radius. I have employed for many years the finger traction apparatus which can be applied to force the hand into traction and strong ulnar deviation; flexion can then be applied while the plaster-of-paris cast hardens. There is one caution that I would emphasize in the use of the finger traction apparatus—guard against dislocation of the shoulder. Recently I witnessed the use of this apparatus by a physician who failed to use the sling which is provided with the apparatus to maintain the arm in abduction and the elbow at right angles while traction is being applied. Following reduction of the fracture, which I doubt was reduced completely, the patient suffered a dislocated shoulder, which then had to be reduced.

In fractures of the distal radius it has been my practice to allow the cast to remain in position for no more than 2 or 3 weeks. Then I remove the cast and apply an elastoplast strapping of several thicknesses for about 6 weeks. During this time, the patient is encouraged to use his hand and fingers and some motion at the wrist is permitted. The only restriction placed upon the patient is that he must not put any pressure on the wrist by strong flexion or extension of the hand either with or without upward pressure. I believe early function of the fingers is most important and is probably the best way to prevent posttraumatic adhesive tenosynovitis of the hand and fingers.

In this connection in the presence of posttraumatic tenosynovitis, I recommend the use of x-ray therapy as a means of controlling the edema and pain. Prolonged immobilization is hazardous and frequently results in a disability that is almost impossible to correct, but with x-ray therapy, if it can be instituted early enough, the patient will frequently have complete restoration of function within a period of a few days.

One thing that I have noticed with a great deal of interest since using the above method in the

handling of fractures of the distal radius is that the distal ulna, even though fractured and its ligamentary structures badly damaged, rarely becomes depressed or hypermobile as was formerly seen under other methods of treatment. It has been my experience that with the use of the finger traction apparatus the ulna remains in its proper relationship to the radius and does not drop down in a volar displacement. This is probably one of the reasons why better results are obtained when the patient can be immobilized in traction, strong ulnar deviation, and slight flexion.

FLEXION DEFORMITIES OF THE ELBOW

Flexion deformities of the elbow which frequently follow fracture-dislocations are troublesome because of the disability that accompanies them. I have employed an anterior capsulectomy on these cases with rather good results. I remove the bone fragments rather than attempt to replace them. I find that end results are better if even fragments large enough that their removal interferes with the anatomic continuity of the elbow are removed rather than subjecting the patient to the trauma of attempted reduction. By such procedures early voluntary and passive postoperative motion can be instituted, which aids materially in the rehabilitation of the elbow.

FRACTURES OF PROXIMAL HUMERUS

One of the frequent mistakes in the use of the hanging cast for fractures of the proximal humerus is the fact that the cast applied is entirely too heavy. The weight of this plaster will defeat its purpose and produce a subluxation of the scapulohumeral articulation which may cause disability of the shoulder joint for a long time following injury. I have seen several such cases resulting from a plaster-of-paris cast that was too heavy or was left in position for too long. I would recommend that such a cast be applied for not longer than 2 weeks. For 4 to 6 weeks following the removal of the plaster the patient should be allowed to carry the arm in a suitable sling permitting minimal exercises to the scapulohumeral articulation, as well as to the other joints of the upper extremity. In fractures of this type it is most important to effect early restoration of function, at the expense of anatomic reduction of the fracture.

In my opinion the hanging cast has little or no purpose or usefulness in the treatment of fractures of the humeral shaft. In fact I believe that they are most dangerous. I prefer to use the Zimmer sling which I feel has many mechanical advantages over the conventional type of triangular sling for the use of these cases. The patient is instructed to avoid passive exercise of the shoulder joint and rather encouraged in voluntary exercise within the limits of his own muscle power. As a rule such patients will do themselves no damage, whereas damage might readily be done by passive motion to the joint. These patients should be x-rayed 4 to 6 weeks after immobilization, and I usually have them x-rayed at the time of removal of the plaster-of-paris cast to check on the position of the fragments. Usually within a 2-weeks' period sufficient primary union will take place to immobilize the fragments. Then, studies are made about 6 weeks later to determine whether or not it will be safe to allow the patient full active use of the involved proximal humerus.

PATHOLOGIC FRACTURES

In fractures that result from benign tumors of bone or such metabolic diseases of bone as Paget's disease and which are notorious for nonunion, I have found that intramedullary fixation is perhaps the most satisfactory approach. While internal fixation by means of a bone plate and screws is as a rule satisfactory, I have found that in patients suffering from Paget's disease this type of internal fixation is not enough. The period of healing, even with bone grafts, is very protracted and some supplementary type of firm fixation such as intramedullary fixation of the fracture is needed to decrease the period of bed disability.

In the presence of pathologic fracture from metastatic disease the desired procedure depends entirely upon the condition of the patient. These cases are for the most part hopeless but we all have seen the extreme distress which attends such fractures and the disability which follows. I have employed in these cases, with some degree of success, external fixation in the form of a Clayton splint or a modified Stader splint. Although I do not attempt or hope for union of the fracture, the patient certainly has a great deal of relief in being able to move the extremities until the eventual end.

BONE PLATES AND STAPLES

Bone plates and screws for internal fixation of fractures are a very popular and very useful adjunct to the armamentarium of the orthopedic surgeon. We all know the desirability of placing these plates and screws in such a position that the plate tends to be buried beneath the muscle mass. The application of the plate to an area which has little or no muscle over it is hazardous because of the danger of injury to the superficial skin and subsequent infection through no fault of the bone plate itself. I urge that wherever possible bone plates be buried deep under a muscle mass for the protection of the superficial tissues.

A fact which needs no elaboration to a group of orthopedists, but one which apparently is unrecognized by a good many physicians who employ bone plates and screws, is that for proper fixation of plates, the screws should transfix both cortices of the bone and extend approximately ⅛ to ¼ inch. This rule in the application of bone screws is probably the one that is most frequently violated and thus accounts for many of the failures with internal fixation plates. Another most common fault in the use of bone screws is the tendency toward too tight fixation, which in itself will produce aseptic necrosis with resultant loosening of the screws, the plate, and the fixation. The screws should be drawn up taut, but not tight.

Within the past few years a very useful small piece of equipment has been available—the metallic staple, which is now furnished in a great variety of sizes and weights and which I have found most useful in maintaining the position of bone grafts and of tendinous attachments of muscles when detached for exposure or from trauma. The use of these staples will certainly simplify many procedures.

THE USE OF ANTIBIOTICS

No discussion of this type would be complete without some mention of the advances made in the treatment of bacterial infections by the antibiotics developed within the past few years. I shall not attempt to decry the effectiveness of these drugs in the control of these specific infections. However, the antibiotics have their side effects, and are not entirely safe. In fact, the history of penicillin is duplicating that of the sulfonamides.

The antibiotics are being used indiscriminately. In the last few years almost everyone with fever, as

well as those having surgical operations and tooth extractions, have been given one or another of the antibiotics. As the dosages have increased, their effectiveness has diminished. As bacteria become more resistant to the antibiotics, their indications will decrease apace. Although heralded as practically harmless in their early history, antibiotics have, after a few years' use, been found to follow the pattern of almost every effective drug in the history of medicine. Dangerous side effects minimize their usefulness in practice, conforming to an axiom as modern today as it was 50 years ago.

Now we know that a considerable number of people have become sensitized permanently to penicillin and we are seeing an alarming increase in the incidence and in the severity of such reactions. More important, penicillin reactions can kill. Toxicity, angioneurotic edema, bronchial asthma, glottal swelling, polyserositis, and urticaria, in various combinations, are common, and the literature reports late liver fatalities. The antihistaminic drugs, so dramatically beneficial for penicillin rash in the past, have lost much of their magic. As time goes on, these simple useful drugs, too, are showing their other side. They are not being found as harmless as originally claimed.

It might be well to inquire into the past history of patients with regard to the administration of antibiotics, which is apt to be forgotten in the search for allergies. The possibility of sensitization to these preparations cannot be ignored even though they were given 5 or more years previously. Sensitivity lasts an indefinite time and when sensitivity exists, it is unwise and unsafe to administer the antibiotic that might produce a disastrous reaction.

These remarks regarding the antibiotics are based on a paper by Ralph L. Fischer.[1] I think that his remarks are timely and might well cause us to pause and reflect. My excuse for their presentation here is to plant the seed of caution in the minds of readers against the indiscriminate, so-called prophylactic use of the antibiotics postoperatively in orthopedics or any other branch of surgery. The human body, as pointed out by A. T. Still more than 50 years ago, contains within itself all of the necessary elements for its well-being and, if given a chance, will be able to combat successfully a great many of the diseases to which the body will fall heir. If the antibiotics are indicated, they should be given specifically with full knowledge of the bacterial etiology of the specific infection. Again I caution you against the "shotgun" administration of these substances which, in my own estimation, might well be criminal.

CLUBFOOT DEFORMITIES

No discussion of orthopedic problems can well avoid mention of experience with the handling of clubfoot deformities. I would like to bring to your attention a technic that I have been using for some years, which is based on the work of White.[2] The procedure is, briefly, a subcutaneous tenorrhaphy of the Achilles tendon for lengthening that structure. A small thin bistoury is used to sever the mesial half of the tendon just above its calcaneal attachment and the posterior half at a point approximately 2 inches above the calcaneus or at the level of the musculotendinous juncture. Dorsiflexion of the foot after these partial tenotomies will allow for the correction of practically any shortening of the Achilles tendon and overcorrection of the equinus deformity. The procedure is very simple, has been eminently successful, and has avoided the dangers of a complete tenotomy and the extensive surgery of other tenorrhaphies.

In the consideration of cast therapy for the correction of the various clubfoot deformities which include metatarsus varus, there has been mentioned in this Academy many times I am sure, and I will mention it again, the necessity for avoiding the "rocker sole." To avoid this complication it is necessary to apply the plaster-of-paris cast in two or more stages, allowing the plaster to harden between each procedure. In this way, it is possible to effect the corrective torsions or twisting of the foot at the specific point where they are desired and thus to avoid the "rocker sole" and pressure necrosis, which should be avoided at all cost. The orthopedist must also keep in mind the ever-present tendency for the infant to wiggle out of casts. In the application of corrective casts for clubfoot deformities, the cast must include the lower part of the thigh with the knee held in flexion to prevent the child from such maneuvers.

NEW DEVELOPMENTS

In conclusion I would like to bring to your attention two articles which have kindled a great deal of interest in my thinking.

The first is entitled "Modern Treatment of Chronic Osteomyelitis with Topical Detergent Antibiotic Therapy" by E. J. Grace and Vernon Bryson.[3] It has been their procedure to mix penicillin in various dilutions with one or more of the common detergents, such as aqueous Zephiran, Aerosol, and to instill into the involved area through retention catheters of various sizes small quantities of this mixture at intervals of from 3 to 4 hours for some days. I had made a similar observation on the advantages of combining detergents with penicillin prior to reading this article, but not with the investigative detail and thoroughness of the authors. I believe this procedure to be another step in the advance towards the management of osteomyelitis and other chronic infections.

The second article to which I would direct your attention is "Experimental Scoliosis—The Role of the Epiphysis" by J. W. Nachlas and J. N. Borden.[4] These investigators have pursued the thought that the epiphysis plays an important role in the formation of scoliosis and have shown there is a definite link between epiphyseal function and lateral curvature. Their method has been to use a large staple fixing the vertebral bodies on one side or the other to produce scoliosis by controlling epiphyseal growth. Asymmetry of development has occurred and typical scoliotic changes have been found in laboratory animals. Work has already begun to reverse this procedure for the correction of scoliosis in children. Further reports will be watched with a great deal of interest.

It has been a pleasure to make this presentation and I hope that in some small way what I have said may help the younger men who are interested in the field of orthopedic surgery to avoid some of the pitfalls that it has been my misfortune to have encountered.

12 S. 12th St.

REFERENCES

1. Fischer, R. L.: Unpublished paper presented at the annual meeting of the Pennsylvania Osteopathic Association, Philadelphia, Sept. 22-24, 1950.

2. White, J. W.: Torsion of achilles tendon; its surgical significance. Arch. Surg. 46:784-787, May 1943.

3. Grace, E. J., and Bryson, V.: Modern treatment of chronic osteomyelitis with topical detergent antibiotic therapy. Surg., Gynec. & Obst. 91:333-342, Sept. 1950; abstr. J. Am. Osteop. A. 50:181, Nov. 1950.

4. Nachlas, W., and Borden, J. N.: Experimental scoliosis—role of the epiphysis. Surg., Gynec. & Obst. 90:672-680, June 1950; abstr. J. Am. Osteop. A. 49:645, Aug. 1950.

Conventions and Meetings

Announcements

American Osteopathic Association, Fifty-Fifth Annual Convention, Milwaukee, July 16-20, inclusive. Program Chairman, Paul Atterberry, Milwaukee.

American College of Osteopathic Obstetricians and Gynecologists, Hotel Continental, Kansas City, Mo., February 19-21. Convention Executive, Bernard Abel, Toledo, Ohio.

American College of Osteopathic Surgeons, annual meeting, Hotel Statler, Washington, D. C., October 28-November 2, 1951. Program Chairman, Albert B. Wheeler, Carthage, Mo.

American Osteopathic Society of Proctology, Hotel Durant, Flint, Mich., May 10-12. Program Chairman, John J. Mahannah, Warren, Ohio.

Arizona, annual meeting, Tucson, May 4-6.

California, annual meeting, Long Beach, May 23-25; House of Delegates, May 21-22.

Indiana, annual meeting, Richmond-Leland Hotel, Richmond, May 5-7. Program Chairman, Fred L. Swope, Richmond.

Maine, postgraduate seminar, Bangor, April; annual convention, Samoset Hotel, Rockland, June 22-23.

Massachusetts, annual meeting, Hotel Kenmore, Boston, January 20, 21. Program Chairman, Vincent N. Hammersten, Newton Highlands.

Northwest Osteopathic Convention, Portland, Ore., June 4-7. Program Chairman, Harold D. Groves, Portland, Ore.

Ohio, annual meeting, Neil House, Columbus, May 6-9. Program Chairman, Roger E. Bennett, Middletown.

Oregon: See Northwest Osteopathic Convention.

South Dakota, annual meeting, Cataract Hotel, Sioux Falls, June 3-5.

Texas, annual meeting, Houston, April. Program Chairman, H. G. Grainger, Tyler.

Vermont, annual meeting, October 3-4, 1951. Program Chairman, Edward T. Newell, Burlington.

Washington, midyear meeting, December 2, Gowman Hotel, Seattle. See also Northwest Osteopathic Convention.

West Virginia, annual meeting, Shenandoah Hotel, Martinsburg, May 13-15. Program Chairman, Edward D. Hersh, Weirton.

Wisconsin, annual meeting, Hotel Schroeder, Milwaukee, May 10, 11.

Wyoming, annual convention, Rawlins, June 2-3.

OFFICIAL AND AFFILIATED ORGANIZATIONS

ARIZONA
State Society

Officers were listed in the July JOURNAL, and trustees and committee chairmen in the August JOURNAL. In addition, Dwight A. Stiles, Phoenix, is chairman of the committee on public health.

Tucson

A meeting was scheduled to be held in Tucson on October 4.

ARKANSAS
State Society

Officers and a partial listing of committee chairmen were reported in the July JOURNAL. In addition, chairman of the public relations committee is Paul W. Lecky, El Dorado.

Robert B. Beyer, Fort Worth, Texas, was to be guest speaker at the fall meeting in Little Rock, October 26. He was to talk on cranial technic. Also on the program was to be C. W. Dalrymple, Little Rock, who was to demonstrate sacroiliac technic.

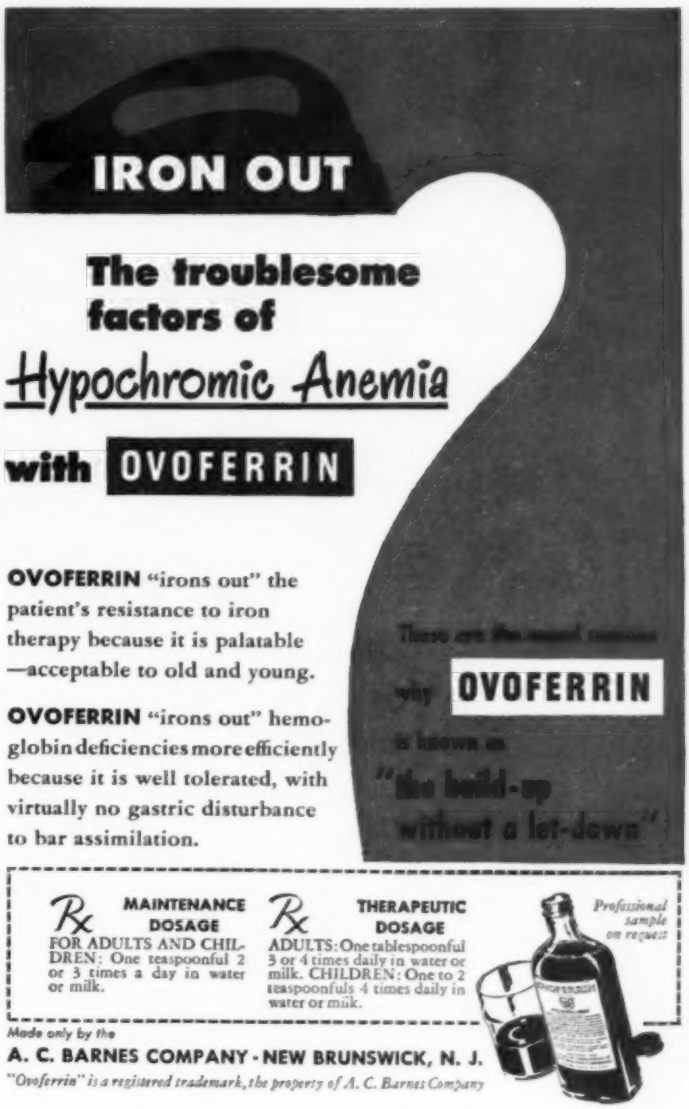
CALIFORNIA
Hospital Association

Mr. Sidney Wormser, Maywood, was elected to the board of trustees to fill the vacancy created by the resignation of Mr. F. E. Heflin, Long Beach.

Subjects to be discussed at the November 4 meeting which was scheduled to be held in Los Angeles included proposed changes in hospital licensing regulations, statewide defense planning, personnel, and tax problems.

Component Officers Association

Officers elected at the business meeting held in Fresno on September 17 are: Chairman, Melvin T. McDaniel, Wasco; vice chairman, James A. Pearce, Sacramento; and secretary, Harold T. Edwards, Los Angeles.


IRON OUT
The troublesome factors of
Hypochromic Anemia
with OVOFERRIN
OVOFERRIN "irons out" the patient's resistance to iron therapy because it is palatable —acceptable to old and young.
OVOFERRIN "irons out" hemoglobin deficiencies more efficiently because it is well tolerated, with virtually no gastric disturbance to bar assimilation.
why OVOFERRIN
is known as
"the build-up without a let-down"
Rx MAINTENANCE DOSAGE
FOR ADULTS AND CHILDREN: One teaspoonful 2 or 3 times a day in water or milk.
Rx THERAPEUTIC DOSAGE
ADULTS: One tablespoonful 3 or 4 times daily in water or milk. CHILDREN: One to 2 teaspoonfuls 4 times daily in water or milk.
Professional sample on request
Made only by the
A. C. BARNES COMPANY · NEW BRUNSWICK, N. J.
"Ovoferrin" is a registered trademark, the property of A. C. Barnes Company

NOW IS THE TIME TO INSTALL

Microtherm

the Radar Diathermy that

AVOIDS TELEVISION INTERFERENCE

No matter where you are TV is all around you or will be before you know it.

Don't get into TV trouble. FCC approval does *not* guarantee freedom from interference. Buy MICROTHERM and play safe. MICROTHERM Radar Diathermy employs frequencies way above the television wave range. There's no interference.

MICROTHERM Radar Diathermy is the modern, precision method of heat therapy — simple and positive. *Are you willing to be shown?*

Ask your dealer to give you a demonstration, or write for Bulletin DL-MED601

This was good enough for grandma —but granddaughter expects modern diathermy treatment — *Microtherm* Radar Diathermy.

Raytheon Microtherm Radar Diathermy Has Many Advantages

Penetrating energy for deep heating

Desirable temperature ratio between fat and vascular tissue

Effective production of active hyperemia

Desirable relationship between cutaneous and muscle temperature

Controlled application over large or small areas

No tuning — no electrodes — no pads — no shocks or arcs — no contact between patient and directors

RAYTHEON MANUFACTURING COMPANY
POWER TUBE DIVISION
WALTHAM 54, MASSACHUSETTS
Excellence in Electronics

Alameda County

Officers, trustees, and the program chairman were reported in the August JOURNAL. Bureau chairmen are: Public affairs, Wesley S. Carey; public service, Lily G. Harris; professional affairs, David B. Bosworth; insurance, Elbert W. Ashland, all from Oakland. Department heads are: Veterans' affairs, Cecil C. Childress; public health and child welfare, Muriel M. Chapman, both of Berkeley; military affairs, Glenn A. Axtell; radio, Frank H. Martin, both of Oakland; publicity, Dr. Harris; speaker procurement, Robert C. Combs, San Leandro; professional education, Russell J. Tuche; vocational guidance, Jacquelin Bryson; membership, Elizabeth A. Burrows, all three of Oakland; hospitals and clinics, John T. Avery, San Leandro; ethics and censorship, Eugene C. Darnall, Berkeley; publication, Dr. Bosworth; historian and assistant program chairman, Pearl S. Huey; industrial accident insurance and medical defense, Jack Goodfellow; and health insurance, Wilkie S. Hamlin, all three of Oakland.

A meeting was scheduled to be held in Oakland on October 9.

Citrus Belt

The officers are: President, S. D. Thompson, and secretary-treasurer, P. G. Van Etten, both of Riverside. William G. Stahl, Pomona, is the trustee.

Department heads are: Veterans' affairs, Errol King; military affairs, R. A. Galbraith; radio, A. S. Bordwell; ethics and censorship, Ben B. Thompson; membership, A. C. Fulmor; medical defense, O. V. King, all of Riverside; public health and child welfare, M. L. Long; professional education, Robert L. McBurney; hospitals and clinics, Murray D. Weaver, all three of Ontario; publicity, Ralph Burton; vocational guidance, Herman A. Katz, both of San Bernardino; publication and attendance, Loring Mann; industrial accident insurance, R. E. Eby, both of Pomona; historian, Ann Parker, Perris; and health insurance, Jack Heydenreich, Fontana.

Fresno County

The officers were listed in the August JOURNAL. Trustees are C. H. Glass, Fresno, and G. D. Blair, Merced.

Bureau heads are: Public affairs, Madge Spencer; public service, L. N. Pearson; insurance, K. R. O'Brien, all of Fresno, and professional affairs, Dr. Glass.

Department heads are: Veterans' affairs and military affairs, A. S. Wallace; public health and child welfare, J. G. Jones; publicity, radio, and speaker procurement, Dr. Pearson; hospitals and clinics, and vocational guidance, R. H. Coburn, Jr.; ethics and censorship, Frank MacCracken, all of Fresno; publication, Dr. Spencer; membership, Dr. Glass; industrial accident insurance, health insurance, and medical defense, Dr. O'Brien; and professional education, W. A. Lose, Clovis.

Kern County

The officers are: President, Melvin T. McDaniel, Wasco; president-elect, Theodore Worden, Buttonwillow; and secretary-treasurer, A. Marsh Tuttle, Bakersfield.

Don C. Garn and Arthur L. Moore, both of Bakersfield, are the trustees.

Bureau chairmen are: Public affairs, Dr. Garn; professional affairs, Robert P. Haring, Bakersfield; and insurance, Fred C. H. Fowler, Oildale.

Department heads are: Veterans' affairs and military affairs, Dr. Garn; ethics and censorship, and parliamentarian, Dr. Tuttle; membership, Dr. Haring; industrial accident insurance, Dr. Fowler; public health and child welfare, Violet P. Smythe; vocational guidance, Dwight H. Jones; historian, Steven H. Montgomery, all three of Bakersfield; professional education, Jack H. Dugan, Delano; hospitals and clinics, Arvel E. Angell, Oildale; health insurance, Arthur W. Carlson, McFarland; and medical defense, O. G. Ohlsson, Shafter.

Long Beach

The officers are: President, Nicholas V. Oddo, and president-elect, Ace L. Pettigrew, both of Long Beach. Walter E. Mattocks and Elmer S. Clark, both of Long Beach, are the trustees.

Bureau heads are: Public affairs, James G. Magnall; public service, Dr. Clark; professional affairs, Russell M. Husted; and insurance, Edward W. Neushutz, all of Long Beach.

Department chairmen are: Publicity, Dr. Clark; speaker procurement, Dr. Pettigrew; industrial accident insurance and health insurance, Dr. Neushutz; public health and child welfare, Raymond F. Trendle; ethics and censorship, Henry L. McDowell, both of Norwalk; veterans' affairs and military affairs, Charles R. Posson; radio, Don C. Littlefield; professional education, Clarence A. Wensley; hospitals and clinics, George

F. Scouten; publication, Frederic Dubin; vocational guidance, Wilmer R. Olson; membership, Wilfred W. Slater; historian, Henry Miles; medical defense, James W. Jensen; and dues rates, Claire Pike, all of Long Beach.

Los Angeles City

Mr. J. Win Austin, city councilman, was the guest speaker at the meeting in Los Angeles on October 10. The next meeting was scheduled to be held on November 13 in Los Angeles.

Los Angeles County

The officers are: President, Ronald W. MacCorkell; president-elect, Anson Williams; and secretary-treasurer, C. J. Mount, all of Los Angeles.

The trustees are Dr. MacCorkell, Dr. Williams, and immediate past presidents of each of the component societies in Los Angeles County.

Division chairmen are: Public affairs, K. Grosvenor Bailey; public service, Howard B. Norcross; and professional affairs, John Costello, all of Los Angeles.

Monterey Peninsula

The officers are: President, Ruth I. Gotsch, Watsonville; president-elect, Frances Nichols; and secretary-treasurer, Charlotte Braginton, both of Salinas.

Eugene Dong, Salinas, is the trustee.

Bureau heads are: Public affairs, Clinton Zobel; professional affairs, George Barden; insurance, Richard Cavanaugh, all three of Salinas; and public service, Evelyn Brisbane, Santa Cruz. Dr. Dong is head of the department of membership.

Mother Lode

The officers are: President, Hulet Rule; and secretary-treasurer, Harry L. Lee, both of Stockton.

Bureau chairmen are: Public affairs, Stephen P. Teale, San Andreas; public service, Ruth Martin; professional affairs, Kermit L. Moore; and insurance, Ernest S. Gienger, all three of Stockton.

Herbert F. Larson, Lodi, is head of the department of veterans' affairs.

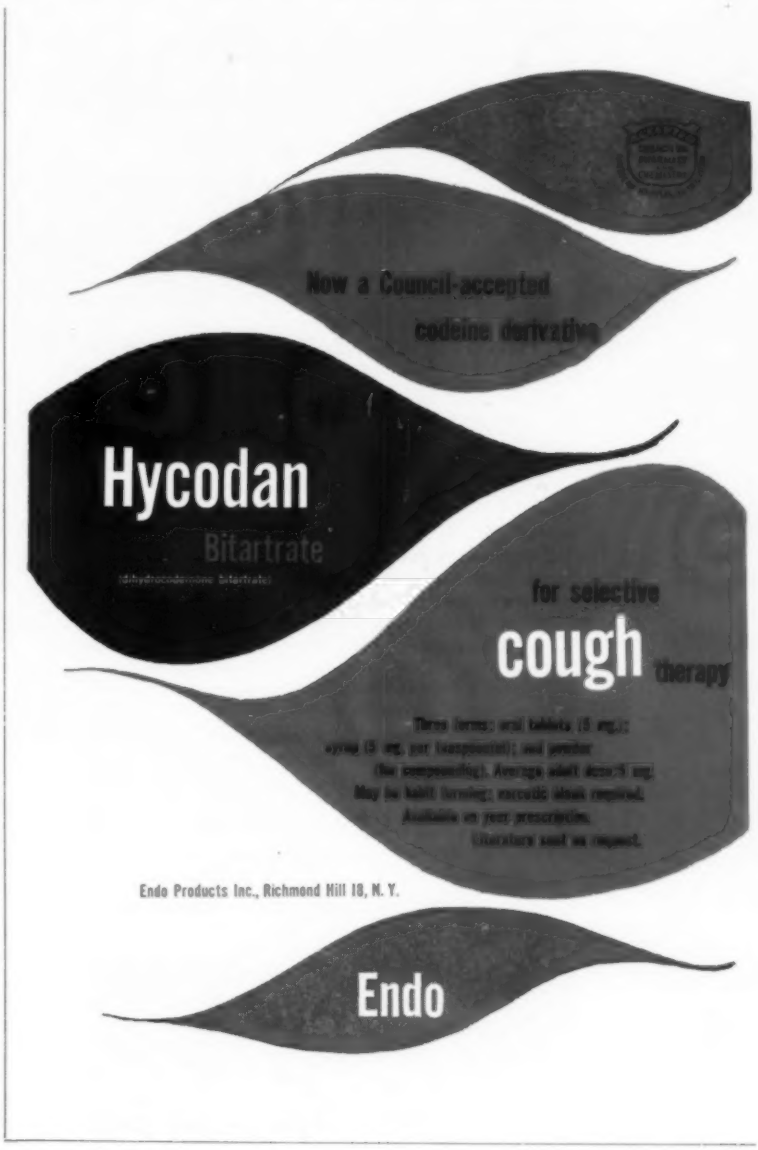
Orange County

The officers are: President, Merlin L. Brubaker, Fullerton; president-elect, Dorothy Jordt, Anaheim; and secretary-treasurer, Russell Morgan, Santa Ana.

Hester Olewiler, Santa Ana, is the trustee.

Bureau chairmen are: Public affairs, Kevin Carroll, Laguna Beach; public service, Dr. Jordt; professional affairs, Duward Mayes; and insurance, Abbott Smith, both of Orange.

Department chairmen are: Public health and child welfare, Dr. Olewiler; veterans' affairs and military affairs, W. T. Mooney, Newport Beach; publicity, John Helmken; hospitals and clinics, L. M. Young; ethics and censorship, H. W. Leecing; publication, Lida Keyes; vocational guidance, R. W. Tibbetts; historian, Julia Hindrichs, all of Santa Ana; radio, E. N. Cooke, La Habra; speaker procurement, Dan M. Bailey, Buena Park; professional education, W. Jackson Scott, Fullerton; membership, E. W. Milum, Corona Del Mar; health insurance, Eric Evans, South Tiguna; and medical defense, G. E. Tohill, Balboa.



Pasadena

The officers are: President, Robert A. Ward; president-elect, Lloyd Cliff; secretary, Clifford Oliver, all three of Pasadena; and treasurer, Boyd Hammack, San Gabriel.

Robert Reitzell and William Neugebauer, both of Pasadena, are the trustees.

Bureau heads are: Insurance, Dr. Neugebauer; public service, Dr. Reitzell; public affairs, Charles E. Atkins; and professional affairs, Loren A. Sutton, both of Pasadena.

Department heads are: Public health and child welfare, Dr. Atkins; publication, Dr. Oliver; historian, Dr. Hammack; industrial accident insurance, health insurance, and medical defense, Dr. Neugebauer; publicity, radio, and membership, William F. Madsen; speaker procurement and vocational guidance, Thomas G. Mallard; veterans' affairs, John G. Painter; military affairs, Victor Trask; professional education, Richard A. Schaub; hospitals and clinics, Thomas J. Meyers; and ethics and censorship, M. H. Simmers, all of Pasadena.

Redwood Empire

The officers are: President, Donald L. Richardson, Larkspur; president-elect, Alfred C. Handy, Petaluma; and secretary-treasurer, Leslie A. Harper, Fairfax.

The trustees are Charles W. Aby, San Rafael, and Frederick P. Greiner, Vallejo.

Bureau chairmen are: Public affairs, Dr. Aby; professional affairs, Dr. Handy; public service, Gertrude Van Steyn, Santa Rosa; and insurance, William Rees, Napa.

Department chairmen are: Veterans' affairs, Dr. Aby; military affairs, Dr. Greiner; publication, radio, and publicity,

IN Pyodermias...

SPECIFIC ANTIBIOTIC THERAPY

WITHOUT THE THREAT OF SENSITIVITY

The serious drawback to topical antibiotic therapy—development of hypersensitivity and severe local reactions—is eliminated with virtual certainty when Bacitracin Ointment-C.S.C. is prescribed.* This desirable behavior is directly related to the extremely low index of allergenicity of bacitracin when administered topically.

Containing 500 units of bacitracin per gram of petrolatum base, Bacitracin Ointment-C.S.C. is promptly effective in the treatment of many cutaneous infections: impetigo contagiosa, ecthyma, infectious eczematoid dermatitis, eczema complicated by secondary infection, furunculosis, infected ulcers including decubitus, and secondary infection complicating many dermatologic lesions.

Bacitracin Ointment-C.S.C. is applied directly to the involved area and is lightly covered with sterile gauze. Available in ½ oz., 1 oz., and 4 oz. tubes.

*Derzavis, J. L.; Rice, J. S., and Leland, L. S.: Topical Bacitracin Therapy of Pyogenic Dermatoses; a Clinical Report, J. A. M. A. 141:191 (Sept. 17) 1949.

C.S.C. Pharmaceuticals A DIVISION OF COMMERCIAL SOLVENTS CORPORATION, 17 E. 42nd St., New York 17, N.Y.

BACITRACIN OINTMENT

CSC

Dr. Van Steyn; professional education, Dr. Harper; membership, Dr. Handy; industrial accident insurance and health insurance, Dr. Rees; public health and child welfare, speaker procurement, and medical defense, David B. Percival, San Rafael; hospitals and clinics, Melvin L. Neilsen, Petaluma; and ethics and censorship, Bertram J. Green, Santa Rosa.

Dr. Harper is program chairman; and hospital district chairmen are Drs. Aby and Neilsen.

Sacramento Valley

The officers and a partial listing of trustees were given in the August JOURNAL. Additional trustees are Wayne Peyton and Dorothy Patterson, both of Sacramento.

Bureau chairmen are: Public affairs, Dr. Patterson; public service, Clifford Hadley, Sacramento; professional affairs, Joe Cosentino, Jackson; and insurance, H. C. Salmen, Sacramento.

Department heads are: Ethics and censorship, Dr. Cosentino; membership, Dr. Peyton; veterans' affairs and military affairs, William V. Patterson; public health and child welfare, Frances Hilgenfeld; publicity and radio, Richard E. Russell; publication, Leta B. Jackson; vocational guidance and medical defense, C. Stillman Wells; historian, Clayton Robinson; industrial accident insurance, Steve Curran; health insurance, James A. Pearce, all of Sacramento; and speaker procurement, Richard Purviance, and professional education, hospitals and clinics, W. K. Eaton, both of North Sacramento.

San Diego

The officers are: President, C. J. Witkowski; president-elect, L. J. Crow; and secretary-treasurer, Richard Pascoe, all of San Diego.

E. B. Houghtaling, San Diego, and H. K. Dalton, LaMesa, are the trustees.

Dr. Houghtaling is head of the bureau of public affairs, and R. J. Hughes, San Diego, is head of the bureau of public service.

San Fernando Valley

The officers are: President, S. J. Aquila; president-elect, H. B. Brotman, both of Van Nuys; and secretary-treasurer, J. C. Cargill, North Hollywood.

The trustees are A. J. Stegmair, Sherman Oaks, R. W. Parker, Reseda, and R. V. Walden and K. R. Holcomb, North Hollywood.

Bureau chairmen are: Public affairs, D. J. Daniel; public service, L. F. Swift; professional affairs, C. Eyerick, all three of Burbank; and insurance, H. P. Schwartz, Sherman Oaks.

San Francisco

The officers are: President, Max Bergau, San Francisco; president-elect, Walter Rogers, San Carlos; and secretary-treasurer, John M. White, San Francisco.

Edith Salmon and Harold Krelle, San Francisco, and Clive Leap, San Mateo, are the trustees.

Bureau chairmen are: Public affairs, W. W. Vanderburgh; public service, D. C. Farnham; and insurance, Russell Alley, all of San Francisco.

Department heads are: Veterans' affairs and military affairs, Clarkson Olmsted; professional education and historian, Susan Hamilton; ethics and censorship, Thomas Morgan, all of San Francisco; and public health and child welfare, Dr. Krelle; publicity, radio, and speaker procurement, Dr. Farnham; hospitals and clinics, industrial accident insurance, health insurance, and medical defense, Dr. Alley; publication, Dr. Leap; and vocational guidance and membership, Dr. Salmon.

San Gabriel Valley

The officers are: President, S. L. Tenney, San Gabriel; president-elect, Thomas Baker, Garvey; and secretary-treasurer, Vay L. Peterson, Los Angeles.

The trustees are A. J. Linderman, Monterey Park, Walter Thomas, San Gabriel, and F. Pyott, Arcadia.

Department chairmen are: Veterans' affairs, Owen Lindsay, San Marino; public health and child welfare, Evangeline Percival, Alhambra; military affairs, Dr. Thomas; publicity, Jules Larner, Los Angeles; professional education, D. Clinton Bennett, Pasadena; ethics and censorship, Lowell Schaeffer, Garvey; publication, Daymond LaMarr, Los Angeles; vocational guidance, Fred Holmes, Alhambra; membership, W. I. Harner, Whittier; historian, M. Alice McConaughy, San Marino; industrial accident insurance, C. B. Fix, San Gabriel; health insurance, John Stratton, Alhambra; and medical defense, Dr. Pyott. Dr. Linderman is head of the bureau of public affairs.

San Jose

The officers and trustees were reported in the July JOURNAL.

Bureau heads are: Public affairs, Pearl Oliphant, Santa Cruz; public service, Thomas Ashlock, Palo Alto; professional affairs, Helen Shelley; and insurance, Neiland H. Hines, both of San Jose.

Wesley H. Taylor, Redwood City, is head of the department of membership.

Santa Barbara

The officers are: President, M. Elise Carlsen, and secretary-treasurer, Lewis J. Goodrich, both of Santa Barbara. Both were re-elected.

Bureau heads are: Public and professional affairs, George K. Needels, Santa Barbara; and public service and insurance, Dr. Goodrich.

Southeast

The officers and a partial listing of trustees were given in the August JOURNAL. In addition, S. R. Satnick, Huntington Park, is also a trustee.

Bureau chairmen are: Public affairs, Julius Siegel, Los Angeles; public service, Don Richhart, Huntington Park; professional affairs, James A. Bird; and insurance, Earl W. Durfey, both of South Gate.

Department chairmen are: Veterans' affairs, Morris Edelstein; public health and child welfare, Evelyn Burkholder; publicity, Robert Magrill; professional education, W. T. Sechrist; membership, Bernard Waldow; historian, Henry Levy; medical defense, Nathan Movich, all of Los Angeles; radio, Bert Chiles, Bell Gardens; speaker procurement, Herman Siegel, South Gate; publication, Jordon M. Phillips, Downey; vocational guidance, Peggy Ives, and health insurance, Milton Norgard, both of Huntington Park.

Southside

Officers were reported in the November JOURNAL. The trustees are Harold Carter and Jose Garcia, both of Los Angeles.

Department heads are: Professional education, Dr. Carter; veterans' affairs and military affairs, Sidney Senter; public health and child welfare, Florence Whittell; publicity, Donald Baker; radio, Edward Randel; speaker procurement, John Fiore; hospitals and clinics, John Christensen; ethics and censorship, Frank Bunker; publication, Alfons I. Wray; vocational guidance, Brinton Allison; membership, Robert Curtis; historian, Lee R. Borg; industrial accident insurance, Alex Wilcox; health insurance, Victor Breul; and medical defense, Arthur Pederson. All are from Los Angeles.

Superior

The officers are: President, Wallace J. Smith, Chico; president-elect, Richard W. Johnson, Arbuckle; and secretary-treasurer, Bird G. Cross, Maxwell.

Everina Rheingans, Paradise, and H. S. Powis, Arbuckle, are the trustees.

Bureau heads are: Public affairs, Charles McCarl, Williams; public service, Garth Rustin, Paradise; professional affairs, Louis Buonomo, Colusa; and insurance, Maxwell R. Lee, Chico.

A meeting was scheduled for November 5, to be held in Chico.

Tulare County

The officers are: President, P. E. Buckman; president-elect, W. L. Nichols, both of Exeter; and secretary-treasurer, D. S. Clark, Lindsay.

All bureaus are under the direction of Dr. Nichols.

Ventura County

The officers are: President, Maude E. Jenkins, Santa Paula; and secretary-treasurer, Arthur J. Priester, Ventura.

The trustees are Silas Williams, Santa Paula, F. J. Swift, Oxnard, and N. D. Weed, Ventura.

Dr. Williams is head of the bureau of public affairs.

Department heads are: Veterans' affairs and vocational guidance, Dr. Weed; public health and child welfare, Dr. Jenkins; publicity, radio, and professional education, Edward Carroll, Ventura; hospitals and clinics, Charles R. Tilley, Oxnard; military affairs and industrial accident insurance, Dr. Williams; and health insurance, Edgar Hoxsie, Santa Paula.

West Los Angeles

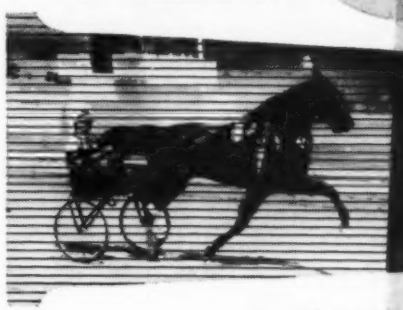
The officers are: President, A. J. Schramm; president-elect, Raymond Whalley; and secretary-treasurer, Walter E. Lord, all of Los Angeles.

Clarence Gazin, Los Angeles, is the trustee.

Bureau chairmen are: Public service, Dr. Whalley; insurance, H. Wayne Wagenseller, Beverly Hills; public affairs, Frank G. Nolan; and professional affairs, Chester H. Lyon, the latter two of Los Angeles.

Department chairmen are: Veterans' affairs and military affairs, Dr. Nolan; public health and child welfare, J. Phillip Morris; professional education, Rex

even in stubborn
slow healing **wounds**
burns
ulcers
(decubitus, varicose, diabetic)



Desitin
OINTMENT
the external
cod liver oil therapy

accelerates healing

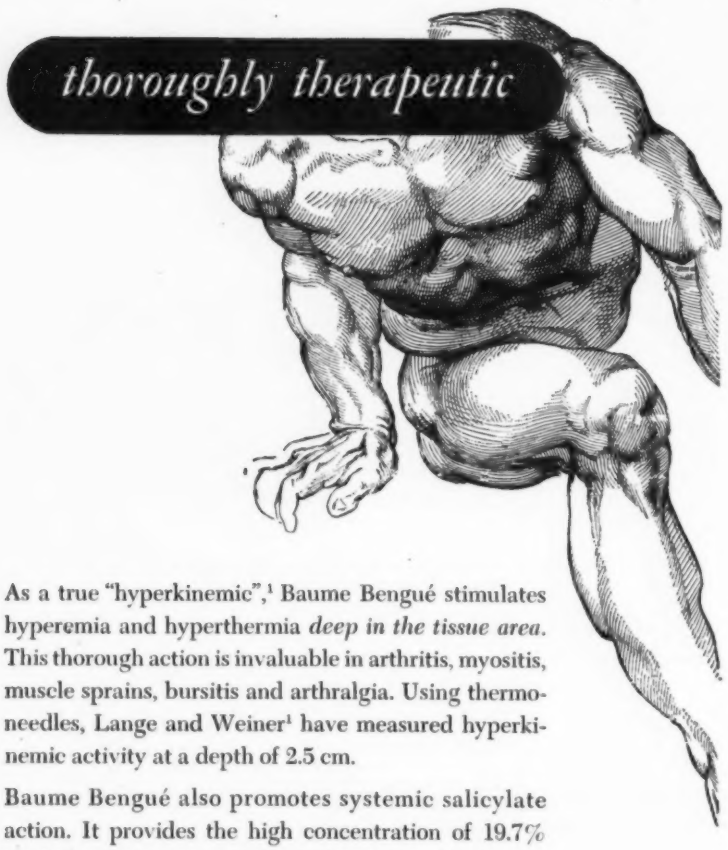
New clinical studies[1] again prove the ability of Desitin Ointment to ease pain, inhibit infection, stimulate healthy granulation, and accelerate smooth epithelization in lacerated, denuded, ulcerated surface tissues . . . often in conditions resistant to other therapy.

protective, soothing, healing **Desitin Ointment** is a self-sterilizing blend of high grade, crude Norwegian cod liver oil (with its unsaturated fatty acids and high potency vitamins A and D in proper ratio for maximum efficacy), zinc oxide, talcum, petrolatum, and lanolin. Does not liquefy at body temperature and is not decomposed or washed away by secretions, exudate, urine or excrements. Dressings easily applied and painlessly removed. Tubes of 1 oz., 2 oz., 4 oz., and 1 lb. jars.

write for ***samples*** *and reprint*

Desitin CHEMICAL COMPANY
70 Ship Street, Providence 2, R. I.

1. Behrman, H. T., Combes, F. C., Bobroff, A., and Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.



As a true "hyperkinemic",[1] Baume Bengué stimulates hyperemia and hyperthermia *deep in the tissue area.* This thorough action is invaluable in arthritis, myositis, muscle sprains, bursitis and arthralgia. Using thermoneedles, Lange and Weiner[1] have measured hyperkinemic activity at a depth of 2.5 cm.

Baume Bengué also promotes systemic salicylate action. It provides the high concentration of 19.7% methyl salicylate (as well as 14.4% menthol) in a specially prepared lanolin base to foster percutaneous absorption.

1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

Baume Bengué
ANALGÉSIQUE

Thos. Leeming & Co Inc 155 E. 44th St., New York 17, N. Y.

Dodds, both of Hollywood; medical defense, Bruce Collins, Santa Monica; speaker procurement, Hermon H. Schlossberg; ethics and censorship, Dale W. Thurston; publication, Edwin I. Delman; vocational guidance, Frank Y. Lee; membership, Seymour Ulansey, all of Los Angeles. Jack Eglin, Venice, and Stanley Dubrin, Hollywood, are co-chairmen of the attendance committee.

COLORADO
State Society

The following talks were to be presented at the Rocky Mountain Conference in Colorado Springs, November 10, 11, and 12, according to an advance announcement: "Nervousness, Indigestion, and Pain," and "Conservative Treatment of Polio," Clayton H. Morgan, Kansas City, Mo.; "Neuro-Endocrine Patterns—Diagnosis and Treatment," "The Hypoglycemia Syndrome—A Study in Osteopathic Philosophy," "The Allergic State," and "The Rule of the Artery Is Supreme," George W. Northup, Livingston, N. J.; and "Problems of the Chest, Including Surgery," Vincent P. Carroll, Laguna Beach, Calif. Also to be included on the program were films on atomic warfare, and a question and answer period conducted by Drs. Morgan, Northup, and Carroll, and moderated by Wayne I. Thompson, Littleton.

CONNECTICUT
State Society

Officers and trustees were reported in the August JOURNAL. Committee chairmen are: Public education on health, C. Raymond Watts, West Hartford; membership, Foster Clark, Torrington; program, Kenneth Adams, Wethersfield; public and professional welfare, Harry Thornbury, Bridgeport; veterans' administration, and maternal and child health, W. John Field, Manchester; public health, Frank Poglitsch, New Britain; selective service, Benjamin F. Adams, West Hartford, and Nestor Hotchkiss, Norwalk; and civil defense, H. Wesley Gorham, Norwalk.

GEORGIA
State Society

At the fall conference in Atlanta on October 1, J. Milton Zimmerman, Dayton, Ohio, the principal speaker, gave talks on the importance of case history taking and on the background and education of a certified internist. Other speakers on the program were Carlton E. Howell, Tifton, discussing hospital management; Matt W. Henderson, Atlanta, who spoke on low-back pain; Frederic D. Nerbonne, Macon, speaking on working with the Veterans' Administration; and Alexander Dahl and Bennett Garner, both of Atlanta, who conducted a technic session.

Atlanta

A film on cardiac conditions was show at the September 18 meeting in Atlanta.

IDAHO
Boise Valley

The officers are: President, Alice Taft Strowd, Caldwell; vice president, Arthur S. Cudmore, Boise; and secretary-treasurer, Andrew E. Johnson, Nampa.

Dr. Johnson spoke on "Structural Malalignments of the Foot" at the October 19 meeting in Nampa.

ILLINOIS
District Six

H. H. Halladay, Galesburg, gave an illustrated lecture on spondylolisthesis at the September 21 meeting in Springfield.

A special meeting was scheduled for October 19.

INDIANA
District Three

Howard E. Eastman, Richmond, was the speaker at the September 20 meeting in Marion.

A motion picture dealing with the sacroiliac was to be presented at the October meeting in Auburn.

District Four

At the September meeting in South Bend, F. A. Turfler, South Bend, spoke on "The X-Ray Examination of the Appendix."

IOWA
State Society

Talks which were scheduled to be presented at each of the district society meetings included "Civilian Defense," "Malpractice Problems," and "The Doctor Draft Act," Harold D. Meyer, Algona; and "Osteopathic Consideration of the Thoracic Area," Byron E. Laycock, Des Moines. Dr. Laycock was also to present a demonstration of osteopathic technic. These meetings were to be held October 22-27.

KANSAS
State Society Auxiliary

The officers are: President, Mrs. J. W. Morrow, Greensburg; president-elect, Mrs. C. F. Bingesser, Waconda Springs; vice president, Mrs. E. C. Sexton, Osage City; recording secretary, Mrs. E. A. Rindt, Fredonia; corresponding secretary,

Mrs. J. M. Lane, Wichita; and treasurer, Mrs. Ralph H. Jain, Colby.

KENTUCKY
State Society

The officers are: President, Ralph S. Brown, Warsaw; vice president, W. G. Hudson, Florence; secretary, Harold D. Benteen (re-elected), Ashland; and treasurer, Nora Prather (re-elected), Louisville.

The trustees are W. Orville Mayfield, Sacramento, Ellis M. Day, Whitesville, Carl J. Johnson, Louisville, Henry P. Lawrence, Hawesville, and F. V. Chambers, Owensboro.

Committee chairmen are: Membership, Dr. Prather; public education on health, ethics, and insurance, Dr. Johnson; vocational guidance, Dr. Mayfield; public and professional welfare, William B. Faxon, Bowling Green; and publicity and program for 1951, Martha Garnett, Louisville.

LOUISIANA
State Society

The officers are: President, A. E. Stanton, Crowley; vice president, Carl E. Warden; secretary, V. L. Wharton, both of Lake Charles; and treasurer, R. H. Walton (re-elected), New Orleans.

Talks which were to be presented at the annual convention in New Orleans October 27 and 28 were "Osteopathic Manipulative Technic Using Respiratory Cooperation of the Patient," Reginald Platt, Houston, Tex., and "Knifeless Surgery as Practiced in Osteopathy," Alexander Dahl, Atlanta, Ga.

MASSACHUSETTS
Connecticut Valley

At the meeting in Northampton on October 24, Ward C. Bryant, Greenfield, and Paul M. Brose, Holyoke, were to speak on osteopathic technic.

Essex County

Raymond W. Boyd, Lynn, was to present a talk, "Technic and Therapeutic Use of Pneumoperitoneum," with a clinical demonstration at the November 20 meeting in Lynn.

MICHIGAN
State Society

The officers are: President, Campbell Ward, Mt. Clemens; president-elect, O. L. Brooker, Plymouth; and secretary-treasurer, P. Ralph Morehouse (re-elected), Albion. Executive secretary is Mr. Harve Lamont Smith, Highland Park.

Trustees are Roy J. Harvey, Midland, Ira Rumney, Ann Arbor, Harry P. Stimson, Highland Park, Alan R. Becker, Jackson, Roy Young, Harbor Beach, Daniel W. McKinley, East Detroit, and Drs. Ward, Brooker, and Morehouse.

Department heads are: Internal affairs, Dr. Brooker; public health, Dr. McKinley; professional development, Dr. Harvey; public affairs, Dr. Rumney; convention and professional education, Dr. Stimson; industrial and institutional services, Dr. Young; and judiciary and ethics, Dr. Becker. Philip E. Haviland, Detroit, is speaker of the house, and L. M. Jarrett, Lansing, is vice speaker.

MISSOURI
State Society

The officers are: President, Sam H. Leibov, St. Louis; president-elect, James R. Dougherty, Vandalia; first vice president, Theodore Corcanges, Raytown; second vice president, Neva M. Steidley, Joseph; and executive secretary, Mr. Lawrence D. Jones, Jefferson City.

Central Missouri

The officers and trustees were reported in the August JOURNAL.

Committee chairmen are: Membership, J. E. Knudsen, Jonesburg; ethics, T. Raymond Turner, Madison; hospitals, Keith D. Swan, Mexico; clinics, R. B. Baize, Laddonia; statistics, Alvord N. MacRae, Warrenton; program, Ernest T. Swan, Perry; legislation, James R. Dougherty, Vandalia; vocational guidance, Lloyd E. Hutchins, Fulton; public health, William H. McCormick, Moberly; industrial and institutional service, James E. Hombs, Glasgow; and public relations, Nellis G. Christman, Paris.

Central Ozark

Grover N. Gillum, Kansas City, spoke on "Current Trends in the Management of Cardiac Emergencies" at the October 5 meeting in Iberia.

North Central

A partial listing of officers appeared in the November JOURNAL. In addition, Joseph E. Prior, Milan, is the secretary and trustee.

Northeast

Miss Gweneth Roberts of Melbourne, Australia, gave a lecture and demonstration of muscle re-education with special reference to paralysis caused by poliomyelitis and cerebral vascular accident, at the October 19 meeting in Plevna.

MONTANA
State Society

The officers, trustees, and a partial listing of committee chairmen were given

pleasant, soothing relief
for coughs

Old and young alike appreciate **DARTUSSIN'S** soothing relief. For coughs and hoarseness due to common colds, specify **DARTUSSIN.** Compounded from thirteen time-tested and favored ingredients, **DARTUSSIN** contains no narcotics — no chloroform. Each familiar ingredient was selected for its well known, effective action in the treatment of coughs and hoarseness.

The delightful flavors of Wild Cherry, Horehound, Licorice, and Honey blend to form a pleasant, palatable taste. For pleasant soothing relief, specify DPS Formula 204, **DARTUSSIN.**

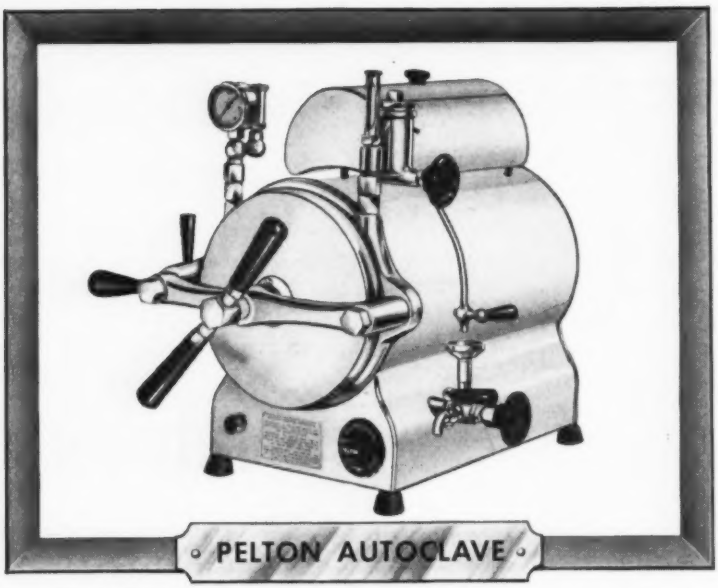
dartussin

DARTELL LABORATORIES
1226 S. Flower St., Los Angeles 14, Calif.

DARTUSSIN — DPS Formula 204 — A pleasant and soothing cough syrup contains:
Extracts of:
White Pine Bark
Wild Cherry Bark
Horehound Herb
Cardamon Compound
Blood Root
Licorice Root
Balm of Gilead Buds
Honey
Menthol
Eucalyptus
Iodine
Glycerine
Simple Syrup

Dosage one-fourth to one-half teaspoon every 3 or 4 hours.

Available in 2 and 4 oz. bottles.



a picture of

Death on Bacteria

NO MATTER how minor the surgery you may perform in your office, you face a grave responsibility. You never can tell when the blood stream of a patient carries spore-bearing bacteria. Consequently there is always the danger of cross-infection when an instrument touches any incision. That calls for the safety of hospital sterilization in your office . . . certain destruction of the toughest bacteria. For such safety, the Pelton HP Autoclave is the perfect answer. It is compact, fully automatic. See it at your dealer's or write for literature.

PELTON

THE PELTON & CRANE CO., DETROIT 2, MICHIGAN

in the August JOURNAL. Additional committee chairmen are: Professional education, T. F. Casebolt, Bozeman; obstetrics and hospitals, George H. Payne, Columbus; clinics, Vernon W. Wolf, Hardin; vocational guidance, James R. Mathis, Miles City; professional development, Emerson Stone, Missoula; constitution and bylaws, George McCole; information and statistics, Gordon A. Dutt, both of Great Falls; state and federal coordination, Martha D. Nielsen; public health and education, T. G. Gunderson; and industrial and institutional service, Hewes O. Harris, the last three of Billings.

NEBRASKA
State Society

The officers and the trustee were listed in the November JOURNAL.

Committee chairmen are: Legislative, Orville D. Ellis; advisory legislative, Elmer H. Frech, both of Lincoln; public and professional welfare, and publicity, Charles T. Crow; membership, Angela M. McCreary, both of Omaha; and legion affairs, C. E. Mikel, Grand Island.

NEW JERSEY
Bergen-Passaic County

The officers are: President, Melvin Elting, Teaneck; vice president, Robert J. Baba, Rutherford; and secretary-treasurer, Irwin Rhine, Englewood.

NEW MEXICO
State Society

Officers and trustees were reported in the November JOURNAL.

Committee chairmen are: Public education on health, Lawrence C. Boatman, Santa Fe; publicity, H. D. Thomas, Albuquerque; membership, Edward L. Miller, Portales; resolutions, Charles B. Marsh, Santa Fe; professional liability and insurance, M. C. Sims, Albuquerque; ethics and censorship, Wilford D. Horton, Ruidoso; hospitals and clinics, H. E. Donovan, Raton; Osteopathic Progress Fund and Home Office Building Fund, George Cozma, East Vaughn; and public relations and placement, R. K. Widney, Albuquerque.

State Society Auxiliary

The officers are: President, Mrs. C. B. Marsh, Santa Fe; president-elect, Mrs. Charles Catron, Gallup; vice president, Mrs. Paul L. Jones, Las Cruces; and secretary-treasurer, Mrs. J. D. Evans, Albuquerque.

NEW YORK
State Society

The officers are: President, William S. Prescott, Syracuse; vice president, Warren J. E. Tucker, Port Washington; secretary, Robert E. Cole (re-elected), Geneva; and treasurer, Bruce C. Tompkins (re-elected), Ithaca. Sergeant-at-arms is Max L. Kamen, Brooklyn.

Directors are David J. Bachrach, New York City, Eugene J. Casey, Binghamton, Clarence Edwin Long, Jr., Buffalo, John R. Pike, Albany, and William B. Strong, Brooklyn.

A course in "The Medical Aspects of Atomic Explosion" is being given in cooperation with the New York State Department of Health at various times during October throughout the state.

OHIO
State Society

On the program of the Fall Refresher Course, to be held in Cleveland on November 8 and 9, were to be the following talks: "Fascia—Its Functions and Relation to Body Mechanics" and "Shoulder Pain and Disability," Angus G. Cathie, Philadelphia; "Etiology and Management of Soft Tissue Lesions" and "Posture and Its Relation to Cardiac and Hepatic Disease," William Baldwin, Jr., Philadelphia; "Practical Manipulative Technics," Leonard G. Greenbaum, Cleveland; "The Technical Phases of the Atomic Bomb," Robert T. Lustig, Grand Rapids, Mich.; and "The Medical Aspects of Atomic Casualties," Earl E. Congdon, Flint, Mich. Also on the program were to be two question and answer periods conducted by Drs. Lustig and Congdon; a round table and workshop; and three government films on the medical effects of the atomic bomb: "Physics, Physical Destruction, and Casualty Effects," "Pathology and Clinical Problems," and "Medical Service in Atomic Disasters."

Second District (Sandusky)

A. R. Fuller, Fremont, spoke on "Poliomyelitis" at the October 4 meeting in Sandusky.

OKLAHOMA
Central

The officers of this newly-formed district are: President, Richard T. Almquist, Oklahoma City; vice president, J. Paul Lane, Prague; and secretary, Ivan W. Berrey, Edmond.

Northwestern

At the October 26 meeting in Enid, William E. Pool, Lindsay, spoke on "Traumatic Injuries of Office and Hospital Natures" and presented x-ray plates of traumatic fractures.

The December meeting will be in charge of the auxiliary, and the January

25 meeting will have as its topic "Rheumatic Fever."

OREGON

State Society

The officers, trustees, and a partial listing of committee chairmen were reported in the August JOURNAL. In addition, James R. Woodmansee is chairman of the public health committee, and J. L. Montgomery is chairman of the committee on emergency medical services for civilian defense. Both are from Portland.

Southern Oregon

William J. Crandall, Ashland, spoke on poison oak and its treatment at the October meeting at Ashland.

Willamette Valley

Two motion pictures, "Defenses of the Body" and "Functions of the Kidney," were shown at the October 21 meeting in Albany.

PENNSYLVANIA

District Two

The officers are: President, Galen S. Young, Chester, and secretary-treasurer, Thomas C. Satterthwaite, Jr. (re-elected), Ambler.

Committee chairmen are: Membership, Marie E. Baur, Jenkintown; ethics, hospitals, and clinics, Glen W. Cole, Norristown; statistics, Herbert Fischer, Ardmore; convention program, Charles M. Worrell, Palmyra; convention arrangements, Victor R. Fisher, Philadelphia; legislation, Kermit H. Lyman, Upper Darby; vocational guidance, Olive L. Copp, Drexel Hill; public health, Marion E. Futer, Lansdowne; industrial and institutional services, Nelson H. Jones, Paoli; public relations, Dr. Young; veterans, Nicholas S. Nicholas; and insurance, Warren A. Pratt, the last two of Upper Darby.

RHODE ISLAND

State Society

Thomas J. Keenan, Jr., Boston, spoke on "Common Skin Diseases and Their Office Treatment" at the October 19 meeting in Cranston. Also on the program was a film on the manipulative treatment of laryngitis.

A manipulative session was scheduled for the November 9 meeting, to be held in Cranston. William H. Lum, Providence, was to conduct the session.

SOUTH DAKOTA

Southeast District

The officers are: President, J. C. Bishop, Sioux Falls; vice president, Andrew S. Glanzer, Menno; and secretary-treasurer, M. W. Myers, Hudson.

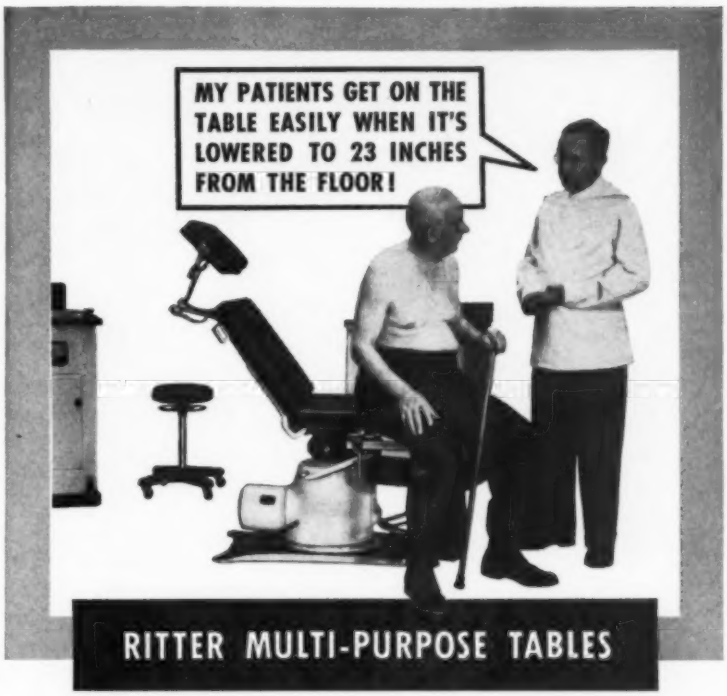
James H. Cheney, Sioux Falls, spoke on atomic medicine at the October 14 meeting in Sioux Falls.

TENNESSEE

State Society

The officers are: President, John C. Emmons, Chapel Hill; president-elect, J. M. Moore, Jr., Trenton; and secretary-treasurer, L. Dale Chesemore, Paris.

Included in the program of the annual convention held at Nashville on October 6-8 were the following talks: "Obstetrics in the Home," "Complications of Labor," and "Etiological Factors of Abortion and the Treatment of Threatened and Inevitable Abortions," Robert Bachman, Des Moines, Iowa; "Lesion Patterns in Disease Entities" and "Application of Technics for Removal of Lesion Patterns," Howard Gross, Kirksville, Mo.; and "Psychiatry for the General Practitioner" and "Treatment of Mental Disorders by Electroshock Therapy," John H. Denby, Macon, Mo.



Whether your patients are short, heavy weight, aged or crippled, they can get on a Ritter Multi-Purpose Table easily. With a light toe pressure this motor driven table can be lowered to 23″ from table top to floor. There is no physical strain for you and patients appreciate this convenience. Another touch of the toe on the motor control pedal and the patient is in position ready for treatment. Consider, too, these other features of the Ritter Multi-Purpose Tables:

● Extreme high and low positions—The Ritter Multi-Purpose Table Model A, Type 1, is available in two ranges 27″-45″ or 23″-41″ (top of table to floor). You work at ease either standing or sitting.

● Flexible adjustments—Head, back, seat and foot sections easily adjusted to any required position—full horizontal to chair. Rotates 180°. Tilts 33° head low position, 5° foot low position.

● The Ritter Multi-Purpose Table Model A, Type 2, is particularly adaptable to proctological work with adjustable knee rest on the foot section. Low position 31″, high position 49″ . . . extreme tilt 55°.

● Your surgical dealer will gladly demonstrate these features of the Ritter Multi-Purpose Tables.

FOR ADVANCED EQUIPMENT LOOK TO **Ritter** COMPANY INCORPORATED RITTER PARK, ROCHESTER 3, N.Y.

TEXAS

Tarrant County

At the October 17 meeting in Fort Worth, Howard G. Buxton, Fort Worth, discussed the indications and uses of ACTH.

District Three

At the September 17 meeting in Mount Pleasant H. G. Grainger, Tyler, spoke on the early treatment of intracranial injuries.

District Five

The officers are: President, John B. Riggs, Groesbeck; vice president, Jerome B. Stone, Normangee; and secretary-treasurer, Robert N. Rawls, Franklin.

District Seven

A meeting was to be held in Austin on November 5.

VERMONT

State Society

The officers are: President, J. Malcolm MacDonald (re-elected), Rutland; vice president, Edward T. Newell, Burlington; clerk-treasurer, Kathleen A. Hunt (re-elected), Middlebury.

The trustees are Drs. MacDonald, Newell, and Hunt, and Raymond Martin, Montpelier, and Murdoch C. Smith, Bennington.

Committee chairmen are: Public education on health, and federal coordinator, Thomas P. Dunleavy, Barre; voca-

efficient
convenient
local
anesthesia!
MONOCAINE HYDROCHLORIDE
AND METAL CAP ANESTUBES . . .
The Monocaine Anestube will simplify your local anesthetic administrations. Used in the corresponding size Anestube Syringe (1cc, 2¼cc or 5cc) the injection is made directly from the cartridge into the tissues. Convenience, correct dose and sterility are characteristic advantages of the Monocaine Anestube. The syringe is unbreakable and leakproof and will give many years of service. The puncturable metal cap of the Anestube may be sterilized by flaming if desired.
Simplify your local anesthesia administration with the Monocaine Anestube. The coupon will bring you detailed information.
Novocol Chemical Mfg. Co., Inc. Brooklyn, N. Y.
Please send details on Monocaine and Metal Cap Anestubes.
Dr. .....
Address .....
( ) Send samples of Monocaine Ampules.
NOVOCOL CHEMICAL MFG. CO., INC.
2911-25 Atlantic Avenue, Brooklyn 7, N. Y.

tional guidance, professional development, and Osteopathic Progress Fund, Marion Norton Rice, Windsor; public health, Charles D. Beale, Rutland; industrial and institutional service, John C. Prendergast, Poultney; publicity and radio, H. K. Sherburne, Jr., Rutland; statistics, Eva Magoon Somerville, St. Johnsbury; membership, Lester Lovell, Brattleboro; divisional societies, John H. Blackmer, Randolph; veterans, Charles Norton, Grand Isle; convention arrangements, Howard I. Slocum, Middlebury; and medical emergency (civil defense), program, hospitals and clinics, Dr. Newell.

WASHINGTON

Yakima Valley

The officers are: President, Harland G. Hofer (re-elected); vice president and treasurer, M. E. Herr; and secretary, A. J. Myers, all of Yakima.

Russell L. Herr and Charles L. Wilson, both of Yakima, are the trustees.

Committee chairmen are: Convention program, convention arrangements, and vocational guidance, Arthur E. Borchardt, Sunnyside; membership and legislation, Dr. Myers; public health, Dr. Hofer; ethics, William J. Boyle, Zillah; hospitals and clinics, William D. Holt; and statistics, Jerry Rucker Buchanon, the latter two both of Yakima.

WISCONSIN

State Society

Included among the talks which were to be presented at the midyear and union district societies meeting at Stevens Point, November 7-9, were "A Pathological Physiology of Common Clinical Conditions as Determined by Laboratory Tests," William J. Loos, Chicago; "Diagnosis of Carcinoma of Intestinal Tract," Samuel H. Fink, Beloit; "Some Thoughts on Nutrition," Horace V. Vandeveer, Viroqua; "Obesity," H. Ward Ferrill, Chicago; and "Mental Health—Stammering," Richard F. Freund, Beaver Dam.

Madison District

At the September 21 meeting in Jefferson, Mr. Eugene S. Schmidt, of the Allis-Chalmers Co., West Allis, gave a talk entitled "This Is Our America."

Milwaukee District

A meeting was scheduled for October 12, to be held in Milwaukee.

SPECIAL AND SPECIALTY GROUPS

ACADEMY OF APPLIED OSTEOPATHY

The name of the postgraduate education committee has been changed to the committee on graduate instruction. This group has announced the following dates for graduate instruction courses: Western course, January 1-5, to be held in Oakland, Calif.; and Eastern course, April 9-13, to be held in New York City. Subjects to be presented at these courses are: Laws of physiological motion, the osteopathic lesion—mechanics of production and effect, postural diagnosis, regional diagnosis, specific or localized lesion diagnosis, neuro-endocrine patterns in the osteopathic concept, complicated lesions, principles of lesion correction: articular and soft tissue, mechanical stress in low-back pain—osteopathic management, the hypotensive state—osteopathic management, the hypertensive state—osteopathic management, and the upper extremity and cervicodorsal junction—osteopathic management.

Florida

The first meeting of this new academy was held October 8.

AMERICAN COLLEGE OF OSTEOPATHIC OBSTETRICIANS AND GYNECOLOGISTS

According to an announcement received, the program for the Kansas City, Mo., meeting, February 19-21, is to include the following: "Diagnosis of Urological Complications During Pregnancy," A. A. Choquette; "Effect of Atomic Energy on Pregnancy, Fetus, and Reproductive Organs," Grover N. Gillum; "Care of the Postpartum Cervix Uteri," Margaret Jones, all three of Kansas City; "Orthopedic Problems in the Field of Obstetrics," J. Paul Leonard; "Diagnosis and Management of Rupture and Inversion of the Uterus," Delle A. Newman, both of Detroit; "Endocrinological Basis of Dysmenorrhea and Premenstrual Tension," Claus A. Rohweder, Kirksville, Mo.; "Interesting Observations on Home Deliveries," William A. Jenkins, Las Cruces, New Mexico; a review of many years' experience with saddle block analgesia by

Dorothy J. Marsh, Los Angeles; a dissertation on progress being made in obstetrical research by Julian L. Mines, Glendale, Calif.; and a panel on anatomy and its practical application to this specialty, conducted by Clayton H. Morgan, Kansas City, and George E. Snyder, Ph.D., Kirksville, Mo.

AMERICAN OSTEOPATHIC ACADEMY OF ORTHOPEDICS

The officers are: President, Harry F. Schaffer, Detroit; vice president, Warren G. Bradford, Dayton, Ohio; and secretary-treasurer, J. Paul Leonard, (re-elected), Detroit.

Members of the board of directors are Hooker N. Tospon, St. Joseph, Mo., W. E. Darling, Detroit, Wallace M. Pearson, Kirksville, Glen W. Cole, Norristown, Pa., Karl P. B. Madsen, Oakland, Calif., and Robert O. Fagan, Des Moines.

AMERICAN COLLEGE OF OSTEOPATHIC SURGEONS

The officers are: President, Charles L. Ballinger, Toledo, Ohio; president-elect, Lucius B. Faires, Los Angeles, Calif., vice president, Harry L. Collins, Chicago, and secretary-treasurer, Orel F. Martin (re-elected), Coral Gables, Fla.

Members of the board of governors are James M. Eaton, Philadelphia, H. J. McAnally, Kansas City, Mo., Troy L. McHenry, Los Angeles, William E. Waldo, Seattle, Samuel F. Sparks, Dallas, Tex., Walter F. Rossman, Grove City, Pa., James O. Watson, Columbus, Ohio, Howard Earl Lamb, Denver, and K. Grosvenor Bailey, Los Angeles.

AMERICAN OSTEOPATHIC COLLEGE OF PROCTOLOGY

The officers are: President, E. E. Ludwig, Rochester, Minn.; vice president, Floyd E. Magee, Indianapolis; and secretary-treasurer, M. M. Vick, Loveland, Colo.

R. V. Toler, Shawnee, Okla., and Percy H. Woodall, Birmingham, Ala., are the trustees.

AMERICAN OSTEOPATHIC COLLEGE OF RADIOLOGY

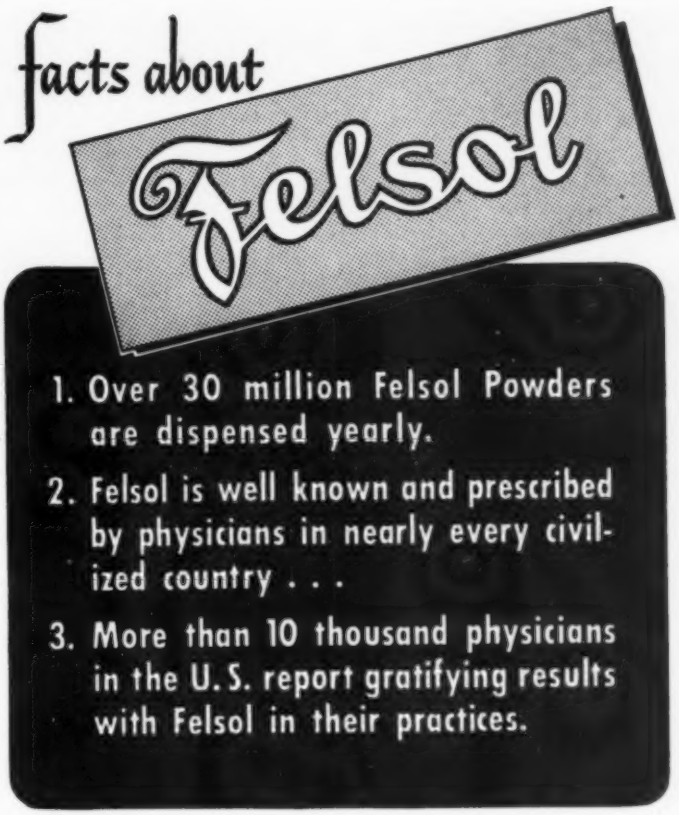
The officers are: President, D. W. Hendrickson, Wichita; vice president, William L. Tanenbaum, Philadelphia; and secretary-treasurer, H. M. Snyder (re-elected), Detroit.

Chairman of the executive committee is F. A. Turfler, South Bend, Indiana.

AMERICAN OSTEOPATHIC HOSPITAL ASSOCIATION

The officers are: President, Mr. Philip J. Vicari, Grand Rapids, Mich.; vice president, Mr. H. J. Kessler, Los Angeles; president-elect, Mr. R. P. Chapman, Allentown, Pa.; and secretary-treasurer, Mr. William S. Konold (re-elected), Columbus, Ohio.

Newly elected trustees are: Division 1, Everett L. Pierce, Newton, Mass.; division 3, Kenneth B. Tindall, Orlando, Fla.; division 5, Mrs. Alixe P. Nuzum, Des Moines, Iowa; division 7, Merle Griffin, Corpus Christi, Tex.; and division 9, Mr. A. C. Cavanaugh, Glendale, Calif.


facts about
Felsol
1. Over 30 million Felsol Powders are dispensed yearly.
2. Felsol is well known and prescribed by physicians in nearly every civilized country . . .
3. More than 10 thousand physicians in the U.S. report gratifying results with Felsol in their practices.

. . . Impressive evidence that FELSOL is no experiment today, but a well proven medication for symptomatic treatment in asthma, hay fever, and bronchitis.

. . . Evidence that you too can prescribe FELSOL for these conditions with confidence.

AMERICAN FELSOL COMPANY, LORAIN, OHIO

Kindly send professional sample of FELSOL

Name_____

Street_____

City-State_____

PLEASE PRINT PLAINLY

AMERICAN SOCIETY OF OSTEOPATHIC ANESTHESIOLOGISTS

The officers are: President, J. Craig Walsh, Philadelphia; vice president, William A. Gantz, Providence, R. I.; and secretary-treasurer, Crawford M. Esterline, Kirksville, Mo.

Members of the board of governors are Mahlon L. Ponitz, Detroit, and Claire E. Pike, Long Beach, Calif.

CALIFORNIA ASSOCIATION OF OSTEOPATHIC INDUSTRIAL PHYSICIANS AND SURGEONS

The officers are: President, Walter R. Thomas, San Gabriel; vice president, William F. Eschrich, Burbank; and secretary-treasurer, Sarah L. Murray, Newhall.

The trustees are Allen C. McLellan, Montrose, Norman J. Madoff, Long Beach, Alexander B. Wilcox and Maurice H. Kowan, both of Los Angeles, and James A. Bird, South Gate.

IOWA CRANIAL ASSOCIATION

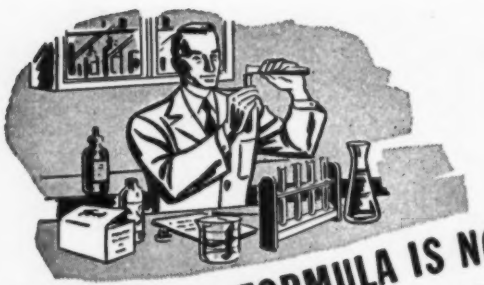
J. J. Henderson, Clear Lake, spoke on "Facial Bones and Related Cranial Technic" at the September 21 meeting in Des Moines.

The next meeting was scheduled to be held in Fort Dodge on October 19.

OSTEOPATHIC ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

The officers are: President, Jack Pessis; president-elect, H. George Blasdel; vice president, Preston J. Stack, all three of Los Angeles; and secretary-treasurer, Kenneth H. Edmiston, Alhambra, Calif.

Program chairman is Dr. Blasdel.



A CHEMICAL FORMULA IS NOT ENOUGH

YEARS OF CLINICAL EXPERIENCE
MUST EVER REMAIN THE FINAL
TEST OF THERAPEUTIC AGENTS

SINCE 1912

$I + CH_3 \cdot (CH_2)_7 \cdot CH : CH \cdot (CH_2)_7 \cdot COOH + C_nH_{2n+2} =$ IODEX

IODEX (plain)
for MINOR BURNS, WOUNDS AND ABRASIONS, ENLARGED GLANDS, BOILS, ABSCESSES AND MANY SKIN DISORDERS.

IODEX c Methyl Sal
for STRAINS, SPRAINS, MUSCLE AND RHEUMATIC PAINS. ALSO HELPS RELIEVE THE ITCHING IN SKIN DISEASES.

IODEX stimulates cell proliferation . . . promotes normal granulation . . . helps to restore the normal degree of skin acidity which counteracts infection.

IODEX* is an organic combination of iodine which by percutaneous absorption slowly gives up its iodine content.

*IODEX cum Methyl Sal *(same formula with Methyl Salicylate added for its analgesic effect).*

Samples and literature on request

MENLEY & JAMES, LTD., 10 WEST FORTIETH STREET, NEW YORK 18, N.Y.

State and National Boards

ARIZONA

J. Walter Larkin, Phoenix, has been appointed to the Osteopathic Board of Registration and Examination for a term which will expire April 15, 1955.

COLORADO

Professional examinations January 2. Address Miss Beulah H. Hudgens, executive secretary, Board of Medical Examiners, 831 Republic Bldg., Denver 2.

Basic science examinations in March. Address Esther B. Starks, D.O., secretary, Basic Science Board, 1459 Ogden St., Denver.

CONNECTICUT

Professional examinations March 13. Address H. Wesley Gorham, D.O., secretary, Osteopathic Examining Board, 520 West Ave., Norwalk.

Basic science examinations February 10 at Yale University, New Haven. Applications must be filed by January 27. Address all communications to Miss M. G. Reynolds, executive assistant, State Board of Healing Arts, 110 Whitney Avenue, New Haven 10.

DELAWARE

Examinations January 9-11. Address Joseph McDaniel, M.D., secretary, Board of Medical Examiners, 229 State Street, Dover.

HAWAII

Examinations January 10. Address Mabel A. Runyan, D.O., secretary, Board of Osteopathic Examiners, 2333 C. Kalakaua Avenue, Honolulu 30.

ILLINOIS

Examinations January 9-11 in Chicago. Applications must be filed by January 2. Address Mr. Charles F. Kervin, Superintendent of Registration, Illinois Department of Registration and Education, State House, Springfield.

IOWA

Basic science examinations January 9 in Des Moines. Address Ben H. Peterson, Ph.D., Coe College, Cedar Rapids.

KANSAS

Examinations February 15-17 at the Kansan Hotel, Topeka. Applications must be filed by January 16. Address Forrest H. Kendall, D.O., secretary, State Board of Osteopathic Examination and Registration, 420 Pennsylvania Ave., Holton.

LOUISIANA

Officers of the Board of Osteopathy are: President, R. H. Walton (re-appointed), New Orleans; secretary, Carl E. Warden, Lake Charles; and treasurer, Walter T. Colquitt (reappointed), Shreveport.

MASSACHUSETTS

Examinations March 13. Address George Schadt, M.D., secretary, Board of Registration in Medicine, State House, Boston 33.

MICHIGAN

Professional examinations in January. Address Harry F. Schaffer, D.O., secretary, Board of Osteopathic Registration and Examination, 1375 Penobscot Bldg., Detroit 26.

Officers of the Board are: President, Mark Hartfield, Detroit; vice president, Roy G. Bubeck, Jr., Grand Rapids, and secretary-treasurer, Dr. Schaffer.

Basic science examinations in January, at Wayne University, Detroit, and University of Michigan, Ann Arbor. Address Miss Eloise LeBeau, secretary, Board of Examiners in the Basic Sciences, 101 North Walnut St., Lansing.

MINNESOTA

Professional examinations March 13. Address George F. Miller, D.O., secretary, Board of Osteopathic Examiners, 601 Dayton Ave., St. Paul 2.

Basic science examinations January 2-3 in Millard Hall, University of Minnesota, Minneapolis. Applications must be filed a week in advance. Address Raymond Bieter, M.D., secretary, Board of Examiners in the Basic Sciences, 126 Millard Hall, University of Minnesota, Minneapolis 14.

MONTANA

Examinations March 6. Address Asa Willard, D.O., secretary, Board of Osteopathic Examiners, Wilma Bldg., Missoula.

NEBRASKA

Basic science examinations January 9, 10 at University of Nebraska College of Medicine, Omaha. Applications must be filed 15 days prior to the examination. Address Mr. Oscar F. Humble, Director, Bureau of Examining Boards, State House, Lincoln.

NEVADA

Examinations January 9. Address Walter J. Walker, D.O., secretary, Board of Osteopathic Examiners, 210 West Second St., Reno.

NEW HAMPSHIRE

Examinations March 8 and 9 in Concord. Address John S. Wheeler, M.D., secretary, Board of Registration in Medicine, State House, Concord.

NEW MEXICO

Basic science examinations in March. Address Mrs. Marguerite Cantrell, secretary, Board of Examiners in the Basic Sciences, P.O. Box 1522, Santa Fe.

NEW YORK

Examinations January 30-February 2. Applications must be filed by January 15. Address Jacob L. Lochner, Jr., M.D., secretary, Board of Medical Examiners, State Department of Education, 23 South Pearl Street, Albany 7.

NORTH DAKOTA

Examinations January 2-3. Address Gordon L. Hamilton, D.O., secretary, Board of Osteopathic Examiners, 6-10 Kresge Bldg., Minot.

OREGON

Professional examinations in January at Portland. Address Mr. Howard I. Bobbett, executive secretary, Board of Medical Examiners, 608 Failing Bldg., Portland.

Basic science examinations March 3 at the Lincoln High School, Portland. Address Charles D. Byrne, Ph.D., Board of Higher Education, Eugene.

RHODE ISLAND

Professional examinations February 14. Applications must be filed by January 31. Basic science examinations in February. Address all communications to Mr. Thomas B. Casey, Administrator of Professional Regulations, State Office Building, Providence.

TENNESSEE

Professional examinations are held on the second Wednesday in February and the last Wednesday in July at Nashville. Address M. E. Coy, D.O., secretary, Board of Examination and Registration for Osteopathic Physicians, 1226 Highland Ave., Jackson.

Basic science examinations December 27, 28 in Memphis. Applications must be filed by December 15. Address O. W. Hyman, M.D., secretary, Board of Basic Science Examiners, 874 Union Ave., Memphis.

VERMONT

Examinations January 22 and 23 at the office of Howard I. Slocum, D.O., Battell Block, Middlebury. Applications must be filed by January 10. Address Charles D. Beale, D.O., secretary, Board of Osteopathic Examination and Registration, Mead Bldg., Rutland.

WASHINGTON

Professional and basic science examinations in January. Applications for the basic science examinations should be filed 30 days in advance. Address all communications to Mr. Robert L. Smith, Director, State Department of Licenses, Olympia.

WEST VIRGINIA

Examinations January 23-25 at the Daniel Boone Hotel, Charleston. Address W. S. Irvin, D.O., secretary, Board of Osteopathy, Middlebourne.

WISCONSIN

Examinations January 9 in Madison. Address C. A. Dawson, M.D., secretary, Board of Medical Examiners, River Falls.

FAST ACTING
added safety for the patient
greater control for the surgeon
KOAGAMIN
In its fast acting control of hemorrhage, KOAGAMIN affords a clearer field for surgery. It reduces bleeding in minutes, regardless of the cause, while Vitamin K, slower in action, is indicated only where prolonged prothrombin time is a factor. When used in conjunction with Vitamin K in such cases, KOAGAMIN effects more rapid control.
PREOPERATIVELY . . . . . minimizes oozing
POSTOPERATIVELY . . . . . controls secondary bleeding
THERAPEUTICALLY . . . aids control of internal bleeding
An aqueous solution of oxalic and malonic acids for parenteral use.
KOAGAMIN works fast, at a time when speed, safety and control are needed.
Supplied in 10 cc. diaphragm-stoppered vials.
Comprehensive dosage chart and literature on request
Chatham
CHATHAM PHARMACEUTICALS, INC.
NEWARK 2, NEW JERSEY, U.S.A.
Available through your Physician's Supply House or your Pharmacist

WYOMING

Examinations February 5-6 in Cheyenne. Address Franklin D. Yoder, M.D., secretary, State Board of Medical Examiners, State Capitol, Cheyenne.

RE-REGISTRATION OF OSTEOPATHIC LICENSES

During December—District of Columbia, $2.00. Address Daniel L. Seckinger, M.D., secretary, Board of Examiners in Medicine and Osteopathy, Health Department, Commission on Licensure, East Municipal Bldg., Washington.

January—Alberta. No reregistration. Pay $10.00 a year membership in College of Physicians and Surgeons, Alberta.

During January—Connecticut, $2.00. Address H. Wesley Gorham, D.O., secretary, Osteopathic Examining Board, 520 West Avenue, Norwalk.

During January—Minnesota, $2.00. Address George F. Miller, D.O., secretary, Board of Osteopathic Examiners, 601 Dayton Ave., St. Paul 2.

During January—Wisconsin, not more than $3.00. Address C. A. Dawson, M.D., secretary, Board of Medical Examiners, River Falls.

January 1—Arizona, not more than $10.00. Address A. B. Stoner, D.O., secretary, Osteopathic Board of Registration and Examination, 422 Security Bldg., Phoenix.

January 1—California, $20.00 for residents and nonresidents. Address Glen D. Cayler, D.O., secretary, Board of Osteopathic Examiners, 301 Forum Bldg., Sacramento.

January 1—Florida, $5.00. Address Richard S. Berry, D.O., secretary, Board

"Pathogenesis of Visceral Disease Following Vertebral Lesions"

Dr. Louisa Burns' Latest Book

A synopsis of the major observations from 40 years of research. Description of scientific methods used and statement of conclusions.

Cloth cover. 6x9, XIV + 347 pages with illustrations, some in color. Limited edition—Price $6.00 postpaid.

An Ideal Gift—We will mail for you

Send enclosure card and remittance with order to

AMERICAN OSTEOPATHIC ASSN.,
212 E. Ohio St.,
Chicago 11, Illinois

Please mail to.....
Print name, please

City..... **Zone**.....

State..... **Signed**.....

of Osteopathic Medical Examiners, 617-18 Times Bldg., St. Petersburg 5.

January 1—Maine, $2.00 Address George F. Noel, D.O., secretary, Board of Osteopathic Examination and Registration, Monument Square, Dover-Foxcroft.

January 1—Manitoba, $5.00. Address W. Kurth, D.O., secretary, Board of Osteopathic Physicians, 248 Moorgate Blvd., Deer Lodge, Winnipeg.

January 1—New York, $2.00. Address Jacob L. Lochner, Jr., M.D., secretary, Board of Medical Examiners, State Department of Education, 23 S. Pearl St., Albany 7.

January 1—Ontario, $10.00. Address Mr. John C. Beer, secretary, Board of Regents; Drugless Practitioners Act, Room 615, 57 Bloor St., W., Toronto 5.

January 1—Oregon, $10.00. Address Mr. Howard I. Bobbett, executive secretary, Board of Medical Examiners, 608 Failing Bldg., Portland.

January 1—Saskatchewan, $30.00. Address Doris May Tanner, D.O., secretary, Board of Osteopathic Physicians, 405 Sterling Trust Bldg., Regina.

January 1—Texas, $2.00. Address M. H. Crabb, M.D., secretary, Board of Medical Examiners, Medical Arts Bldg., Fort Worth.

January 1—Utah, $3.00. Address Mr. Frank E. Lees, assistant director, Department of Registration, 324 State Capitol, Salt Lake City.

January 31—British Columbia, amount of fee set at Annual Meeting of Council of College of Physicians and Surgeons of British Columbia (1946, $28.00). Address A. J. MacLachlan, M.D., registrar, Council College of Physicians and Surgeons, 203 Medical Dental Bldg., Vancouver.

March 1—Colorado, $2.00. Address Miss Beulah H. Hudgens, executive secretary, Board of Medical Examiners, 831 Republic Bldg., Denver 2.

EXAMINATIONS BY NATIONAL BOARD

The National Board of Examiners for Osteopathic Physicians and Surgeons conducts Parts I and II of its examination on the first Thursday and Friday of each May and December at the six approved colleges. Application blanks may be obtained from the secretary, and the completed application blank, together with a passport photograph and check for the part or parts to be taken, must be in the secretary's office by the November 15, or April 15, preceding examination. Part III of the examination will be given in specific locations at the discretion of the Board for the convenience of the applicant.

Examinations in Part I consist of anatomy, physiology, pathology, chemistry, and bacteriology. Part II consists of examination in mental diseases, surgery, obstetrics and gynecology, pediatrics, public health, osteopathic theory and practice. Part III is an oral examination.

Address Paul van B. Allen, D.O., secretary, 1500 N. Delaware Street, Indianapolis 2, Indiana.

BET-U-LOL
HUXLEY PHARMACEUTICALS
521 FIFTH AVENUE, NEW YORK, N. Y.

The Ethical Topical Anodyne that Controls . . . PAIN *in muscle, nerve and joint inflammations*
CONTAINS CHLORAL HYDRATE • MENTHOL METHYL SALICYLATE

CHANGE OF ADDRESS AND NEW LOCATIONS

Abrams, Louis, COPS '50; 2816 South Orange Drive, Los Angeles 16, Calif.
Accola, William V., from Des Moines, Iowa; to Oklahoma Osteopathic Hospital, 744 W. Ninth St., Tulsa 5, Okla.
Adams, Warren P., from 23230 Mack Ave., to 25619 Jefferson, St. Clair Shores, Mich.
Ames, Verner J., KC '50; 5717 Central St.; Kansas City 2, Mo.
Arminski, Charles S., from 7005 Miller Ave., to 6732 Miller Ave., Detroit 11, Mich.
Augter, Eugene F., KC '50; 416 Maple Blvd., Kansas City 1, Mo.
Baba, Robert J., from Detroit, Mich., to 17 Ridge Road, Rutherford, N. J.
Baldwin, Earl Z., Jr., from Kansas City, Mo., to Channelview Community Center Bldg., Channelview, Texas
Barnes, William G., KC '50; Lakeside Hospital, 29th & Flora Ave., Kansas City 3, Mo.
Beach, Elizabeth D., from Glendale, Calif., to Bear Valley Emergency Hospital, Box 540, Big Bear Lake, Calif.
Beach O. Lamson, from 341 Third St., N., to 2639 Ninth St., N., St. Petersburg 4, Fla.
Beach, Raymond L., from Glendale, Calif., to Bear Valley Emergency Hospital, Box 540, Big Bear Lake, Calif.
Brodsky, Samuel H., from Philadelphia, Pa., to Osteopathic General Hospital of Rhode Island, 1763 Broad St., Edgewood, Cranston 5, R. I.
Brooke, Burnham, from Banks, Ore., to 434 Morgan Bldg., Portland 5, Ore.
Bruner, William R., from 401 N. Shipp St., to 100 W. Taylor St., Hobbs, N. Mex.
Burns, Louisa, from 1738 Sichel St., to 1721 Griffin Ave., Los Angeles 31, Calif.
Butts, Lorenzo E., from Nelsonville, Ohio, to 323 Third St., Marietta, Ohio
Call, C. Condie, from Alhambra, Calif., to 265 Laguna Ave., Laguna Beach, Calif.
Carson, James B., KC '50; 419 Maple Blvd., Kansas City 1, Mo.
Christiancy, Allan H., from Lee Shelton Bldg., to Box 426, Kennett, Mo.
Cole, Wilbur V., from 1738 Sichel St., to 1721 Griffin Ave., Los Angeles 31, Calif.
Cooper, Gilbert O., from 3130 W. Vernon Ave., to 6109 Crenshaw Blvd., Los Angeles 43, Calif.
Cornell, Philip H., from 4244 Livernois Ave., to 4237 Livernois Ave., Detroit 10, Mich.
Cramer, Leigh E., KC '50; 2-C Hospital Hill, Kansas City 8, Mo.
Dannin, Arthur E., from Dayton, Ohio, to East Side Hospital, 1153 Oak St., Toledo 5, Ohio
Darby, John B., from Martinez, Calif., to 1440 Danville Road, Walnut Creek, Calif.
Davidson, Edwin S., from 2401 19th St., to Davidson Clinic, 2326 19th St., Lubbock, Texas
Dockum, James M., DMS '50; Box 245, Monroe, Iowa
Donnelly, Harry H., KC '50; 744 W. Ninth St., Tulsa 5, Oklahoma
Dossick, Jules J., from 47 E. Okeechobee Road, to 854 E. 41st St., Hialeah, Fla.
Earnshaw, John H., from 4526 Main St., to Box 14, Port Hope, Mich.
Ellis, Noel G., from Denton, Texas, to 3721 Camp Bowie Blvd., Fort Worth 7, Texas
Ellis, M Virginia Poole, from Denton, Texas, to 3721 Camp Bowie Blvd., Fort Worth 7, Texas
English, Merton A., from Washington, D.C., to 6 E. Kirke St., Chevy Chase 15, Md.
Ewing, Edward, 3rd., from Los Angeles, Calif., to c/o Mrs. A. E. Swartz, Route 1, Hebron, Ohio
Fannin, James A., Jr., KC '50; Blackwood Clinic Hospital, Comanche, Texas
Fanning, John R., KC '50; 174 Cass St., Mount Clemens, Mich.
Farrand, Roderick C., from 2231 Thelma Ave., to 3949 Lowell Ave., Los Angeles 32, Calif.
Fiaschetti, Louis A., Jr., from 830 W. Euclid, to 12712 Plymouth Road, Detroit 7, Mich.
Fishman, Herman, DMS '50; 128 N. Pine St., Lancaster, Pa.
Fleisher, Philip F., PCO '50; 72 Park Terrace, W., New York 34, N. Y.
Forbes, J. R., from Chicago, Ill., to The Copper State Clinic, 5309 N. Seventh St., Phoenix, Ariz.
Fox, John H., from 711 E. McDowell Road, to 3501 E. Van Buren St., Phoenix, Ariz.
Francis, Paul E., KC '50; Big Sandy, Texas
Gluckson, Leonard D., PCO '50; 4410 Ventnor Ave., Atlantic City, New Jersey
Green, Alfred L., PCO '50; 2615 W. Girard Ave., Philadelphia 30, Pa.
Green, Marvin E., from 517½ Lake Ave., to 205 W. Sixth St., Storm Lake, Iowa
Gregory, Buford L., KC '50; Gleason Hospital, 523 Main St., Larned, Kansas
Griffin, Albert A., from Yakima, Wash., to 418 Pine St., Box 782, Central Point, Ore.

Training made easier for the *Colostomy patient*

Training is the key to normal living for the colostomy patient.[1] SPENCER'S new colostomy support—*individually designed, cut, and made* for each patient—makes training easier, because:

- Abdominal section opens instantly by means of zippers—facilitating the change of pads
- This section is lined with moisture-proof material—easily cleaned—protects outer clothing
- Spencer's correlation of abdominal and back support improves posture, body mechanics
- Cosmetic results are appreciated by both male and female patients.

MAIL coupon at right—or PHONE a dealer in Spencer Supports (see "Spencer corsetiere," "Spencer Support Shop," or Classified Section) for information.

1 Bowman, F. B., *The Care of the Permanent Colostomy*, Can. Med. Assoc. Jr., 60: 71-72 (Jan.) 1949.

SPENCER, INCORPORATED
129 Derby Ave., New Haven 7, Conn.
Canada: Spencer, Ltd., Rock Island, Que.
England: Spencer, Ltd., Banbury, Oxon.
Send free Spencer Booklet for Physicians to:
Name ..... D.O.
Address .....
.....
12-50

individually designed SPENCER SUPPORTS®

FOR MAKING BURROW'S SOLUTION U.S.P. XIV WET DRESSINGS
Use PRESTO-BORO U. S. PAT.
POWDER IN ENVELOPES OR IN TABLETS
UNIFORM DOSAGE · NO DISTILLED WATER REQUIRED ····· A VALUABLE ADDITION TO MEDICINE CHESTS AND FIRST AID KITS · ANTISEPTIC · ASTRINGENT · STABLE · LEAD-FREE USE: FOR SWELLINGS, INFLAMMATIONS, SPRAINS.
Manufacturers of:
VALERIA NETS—DISPERT TABLETS
Sedation & Euphovia for Nervous, Irritable Patients
EUCARBON
Compound Charcoal Tablets For Intestinal Dysfunction
STANDARD PHARMACEUTICAL CO., INC., 1123 Broadway, New York

BEST FOR BED PATIENTS!

*The easier-to-use, accurate Tycos*Aneroid with Hook Cuff*

YES, the Tycos Aneroid with time-saving Hook Cuff is more convenient at the bedside—or anywhere else! There just isn't any other sphyg that's *easier to use* or *more accurate*. Here are 8 good reasons why *your* next Sphyg should be a Tycos Aneroid:

1. ACCURATE IN ANY POSITION . . . Ideal for bedside use.

2. TIME-SAVING . . . Zip open case . . . Circle Cuff around arm . . . Hook . . . *and it's on!*

3. POCKET-SIZE . . . Weighs only 19 oz. . . . Easily fits coat pocket.

4. GREATER PROTECTION DURING USE . . . Gage securely attached to Cuff minimizes accidental dropping.

5. EASIER TO USE . . . Hook Cuff fits any size or shape adult arm . . . Can't balloon at edges.

6. ROOMY ZIPPER CASE . . . Easily holds the completely, ready-to-use instrument. No fussy packing!

7. FULL RANGE DIAL . . . Reads to 300mm.

8. 10-YEAR GUARANTEE . . . Manometer readjusted free of charge—*even if you drop it!* (cost of broken parts extra)

On display at your surgical supply dealer's. Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada. *Registered Trade-Mark

ONLY $39.50 Complete with popular Tycos Hook Cuff, and zipper case to slip easily into your pocket.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

Hamilton, Raymond D., from 4926 S. Normandie Ave., to 3120 W. 48th St., Los Angeles 43, Calif.
Hammer, C. E., from Larned, Kans., to 204½ W. Chestnut, Dodge City, Kans.
Hand, William D., Jr., KC '50; 870 Riverview, Kansas City 6, Kansas
Hansen, R. J., from Buffalo, S. Dak., to Rapid City Osteopathic Clinic, 823 Columbus St., Rapid City, S. Dak.
Harmon, Jacob L., KC '50; 416 Maple Blvd., Kansas City 1, Mo.
Hays, Russell B., from Chicago, Ill., to 1217 N. Orange Ave., Orlando, Fla.
Hendricks, Frank J., CCO '50; Zieger Clinic and Hospital, 4244 Livernois Ave., Detroit 10, Mich.
Henery, John G., from 500 Bryant Bldg., to Osteopathic Hospital of Kansas City, 926 E. 11th St., Kansas City 6, Mo.
Hensel, Edward, from 4536 Van Dyke, to 45110 Van Dyke, Utica, Mich.
Hixson, Darwin H., KC '50; 3620 Anderson Ave., Kansas City 1, Mo.
Holcomb, Ferrin H., from Eldorado, Texas, to Holcomb Clinic, Tahlequah, Okla.
Hughes, Elwyn A., from Cleona, Pa., to 25 S. Hanover St., Hummelstown, Pa.
Irani, Ardeshir B., from 409 Colorado Bldg., to 1721 Rhode Island Ave., N. W., Washington 6, D. C.
Irvin, R. Brown, from St. Catharines, Ont., Canada, to 44 Wellington St., Galt, Ont., Canada
Javery, Herbert A., CCO '50; Grandview Hospital, 405 Grand Ave., Dayton 5, Ohio
Johnson, Eugene M., from Northport, Mich., to 1174 Madison Ave., S. E., Grand Rapids 7, Mich.
Johnson, F. W., from Sedalia, Mo., to Otterville, Mo.
Johnson, Royal H., Jr., from Roseville, Mich., to 16802 Josephine, Fraser, Mich.
Johnston, James A. III, PCO '50; 12561 Third St., Highland Park 3, Mich.
Jones, Bernard W., from Sioux City, Iowa, to Rodgers-Jones Hospital, Mineola, Texas
Jones, Peggy Jane, from Canon City, Colo., to Normandy Osteopathic Hospital, 7283 Natural Bridge Road, St. Louis 21, Mo.
Kaplus, Albert, CCO '50; Chicago Osteopathic Hospital, 5200 S. Ellis Ave., Chicago 15, Ill.
Katz, Aaron L., DMS '50; 1212 Second Ave., Des Moines 14, Iowa
Kidwell, James T., Jr., KC '50; Box 222, Mt. Vernon, Texas
Kirila, Andrew W., KC '50; Mount Clemens Gen'l. Hospital, Mount Clemens, Mich.
Kinney, Alma C., from 510 Shukart Bldg., to 5619 E. 16th St., Kansas City 3, Mo.
Kirkland, Robert L., DMS '50; 626 E. 25th St., Erie, Pa.
LaCroix, Eugene E., from Seattle, Wash., to Route 1, Box 1236-T, Edmonds, Wash.
Leach, Jack P., KCOS '50; Detroit Osteopathic Hospital, 12523 Third Ave., Detroit 3, Mich.
Lee, Etta, from 514 11th St., to 2112 Bissell Ave., Richmond, Calif.
Linder, L. W., from Garland, Utah, to 3265 Richards St., Salt Lake City 5, Utah
Lindstrom, Joseph W., from 516 N. Charles St., to 2732 St. Paul St., Baltimore 18, Md.
Lofthus, George A., from Flaxton, N. Dak., to 11016 N. E. Sandy Blvd., Portland 20, Ore.
Lorentson, Lennert L., from Wyandotte, Mich., to 9031 Mortenview Drive, Dearborn, Mich.
Lushbough, Martin, KC '50; 124 S. Eighth St., St. Charles, Mo.
Martz, William L., PCO '50; Osteopathic Hospital of Philadelphia, 48th and Spruce Sts., Philadelphia 39, Pa.
Mathews, Chase E., from 18600 Schoolcraft, to 18900 Schoolcraft Ave., Detroit 23, Mich.
Mazerski, Alexander W., from Philadelphia, Pa., to R. F. D. 8, Lancaster, Pa.
McAnally, Harold J., from 500 Bryant Bldg., to Osteopathic Hospital of Kansas City, 926 E. 11th St., Kansas City 6, Mo.
McCanne, J. Art., from Los Angeles, Calif., to 1320 N. Garey Ave., Pomona, Calif.
McCartney, C. W., from Fairview, Okla., to Frisby Bldg., Bethany, Mo.
McClimans, Leslie A., KCOS '50; Detroit Osteopathic Hospital, 12523 Third Ave., Detroit 3, Michigan
Monger, Louis M., from 1225 Lake Drive, S. E., to 43 Lafayette Ave., S. E., Grand Rapids 3, Mich.
Mooney, W. T., from Newport Beach, Calif., to 1100 24th St., San Diego 2, Calif.
Moore, Roy R., KC '49; Dallas General Hospital, 5003 Ross Ave., Dallas 6, Texas
Morgan, Samuel S., KC '50; 5503 Mercedes St., Dallas 6, Texas
Murphy, J. Vincent, from Centre Theatre Bldg., to 11511 S. Saginaw Road, Grand Blanc, Mich.
Nichols, Jack C., from Hollywood, Calif., to 11436 Delano St., North Hollywood, Calif.
Ogilvie, C. D., from Quitman, Texas, to Gafney Clinic & Hospital, 402 W. Front St., Tyler, Texas

CLASSIFIED ADS

RATES PER INSERTION: $2.00 for 20 words or less. Additional words 10 cents each. 25c for box number.

TERMS: Cash with order, please.

COPY: Must be received by 1st of preceding month.

ADDRESS all box numbers c/o THE JOURNAL, 212 E. Ohio St., Chicago 11, Illinois.

ROENTGENOLOGIST — Residency in Roentgenology available at once or by October 15th. Three year approved training. One year internship required. Grand Rapids Osteopathic Hospital, Arthur H. Witthohn, D.O., 1225 Lake Drive, S. E., Grand Rapids, Michigan.

FOR SALE—RECONDITIONED X-RAY; electromedical and electrocardiograph equipment; available at all district office in United States and Canada; prices include installation and operating instructions by factory-trained engineers. Write: RN-200, GE X-Ray Corp., 4855 Electric Avenue, Milwaukee 14, Wisconsin.

FOR SALE—Well established General Practice including surgery and O.B., in rapidly growing South Texas city. Excellent open staff hospital available. Write Box 11501, THE JOURNAL.

WANTED: D.O. interested in manipulative practice in busy clinic and hospital. Write Dr. W. W. Steehler, Farrow Osteopathic Clinic & Hospital, Erie, Pennsylvania.

FOR SALE: Ten year old strictly manipulative practice in Southern California leading resort city. World's largest naval air station adjoining. Population 18,000. Terms $3,500 cash. Write Box 10506, THE JOURNAL.

WANTED: Qualified laboratory technician to take charge of clinical lab in registered osteopathic hospital. Write Administrator, Willard General Hospital, Manchester, Iowa.

HOUSE PHYSICIAN wanted for 20-bed hospital. Medical and surgical patients. Salary. Opportunity for permanent location. Forest Hill Hospital, 13240 Euclid Avenue, East Cleveland 12, Ohio.

FOR SALE: Office equipment as well as home of late Dr. John L. Moore, Windom, Minn. Good opportunity for D.O. to take over his practice in town of 3000. Write Mr. Harry R. Moore, Jackson, Minnesota.

WANTED TO BUY: Osteopathic Hospital in Michigan, Ohio, Florida or Missouri—by osteopathic physician well qualified in surgery and hospital administration. Box 12502, THE JOURNAL.

WANTED: Opportunity to associate with physician in private practice or clinical group where ample possibilities for manipulative osteopathy exist. Licensed in Colorado and Missouri. Full details thru correspondence. Box 12503, THE JOURNAL.

FOR SALE: Practice and equipment in excellent location, year-round tourist resort. Rooms recently redecorated, attractive. Information on request. Box 12504, THE JOURNAL.

MANIPULATIVE MAN with experience available for busy general practice. Correspondence invited. Write Box 12505, THE JOURNAL.

WANTED: Doctor in a newly completed hospital and clinic building would like an associate. Please state in a letter your background and your preferable specialties if any. Box 12506, THE JOURNAL.

RADIOLOGIST WANTED—24 bed hospital and associated clinic in Southwest wants competent man on guarantee and percentage basis — must be willing to spend part time in clinic practice. Give full details in letter and arrangements will be made for personal interview. Box 12507, THE JOURNAL.

. . . to relieve the strain of

CHRONIC IRREGULARITY

WHEN aberrations of the menses suggest that normal function has overstepped the bounds of physiologic limits—the physician is often confronted with a condition which proves highly distressing to the patient. For such cases (as in amenorrhea, dysmenorrhea, menorrhagia and metrorrhagia), many physicians rely on Ergoapiol (Smith) with Savin as the product of choice. By its unique inclusion of all the alkaloids of ergot (prepared by hydroalcoholic extraction), and the presence of apiol and oil of savin—Ergoapiol (Smith) with Savin provides a balanced and sustained tonic action on the uterus, affording welcome relief in many functional catamenial disturbances. It produces a desirable hyperemia of the pelvic organs, stimulates smooth, rhythmic uterine contractions, and also serves as an efficient hemostatic and oxytocic agent. General dosage: 1 to 2 capsules 3 to 4 times daily.

Write for your copy of the new 20-page brochure: "Menstrual Disorders—Their Significance and Symptomatic Treatment"

Supplied only in ethical packages of 20 capsules.

ERGOAPIOL (Smith) *with* SAVIN

MARTIN H. SMITH COMPANY • 150 LAFAYETTE ST., NEW YORK 13

Ethical protective mark, "MHS" visible when capsule is cut in half or more.

Teckla WHITE GOWNS for your OFFICE PATIENTS . .

★ No. 2G KRINKLE CLOTH for home laundering. (Do not iron)

★ No. 3G PLAIN CLOTH for public laundries. 6 for $13.00; 12 for $25.00; 3 doz. @ $24.00 per doz. (Same prices for 2G and 3G)

BACKS OPEN 12 Inches, 24" or full length (48")

Actual BUST MEASURE of garments: Size 1 (Small) 42 Inches; Size 2 (Medium) 52 Inches; Size 3 (Large) 60 Inches.

TECKLA GARMENT CO., Mfrs. 26 Southbridge Street Worcester 1, Mass.

Extra TIES: 50 yards for $1.00

★

Write for price lists on TECKLA'S high grade

DOCTORS' Office COATS and NURSES' *made-to-measure* UNIFORMS

TECKLA pays postage on all CASH orders

TECKLA GARMENT CO., 26 Southbridge St., Worcester 1, Mass.

Gentlemen: Please send us the following quantities of TECKLA PATIENTS' OFFICE GOWNS:

No. 2G: Size 1.....; Size 2.....; Size 3.....

No. 3G: Size 1.....; Size 2.....; Size 3.....

(Backs open; 12 Inches.....; 24".....; or full length of 48".

EXTRA TIES:..... yards Send C.O.D..... or Pospaid.....

NAME .....

Address .....

.....

CALIFORNIA

THOMAS J. MEYERS
Ph.D., D.O., F.A.C.N.
Psychiatrist
234 East Colorado Street
Pasadena 1, California

Cecil D. Underwood, D.O.
Practice limited to
DERMATOLOGY
and
SYPHILOLOGY
416 West 8th Street
Los Angeles, California

LEE R. BORG
D.O., F.A.O.B.Pr.
Certified by the A.O.B.P.
Proctology
1130 West Santa Barbara Avenue
Los Angeles, California
AXminster 7149

COLORADO

Philip A. Witt, D.O.
Urology and Surgery
1550 Lincoln Denver

DISTRICT OF COLUMBIA

Chester D. Swope, D.O.
Osteopathic Physician
The Farragut Apts.
Washington, D. C.

MISSOURI

ANTHONY E. SCARDINO, D.O.
Practice Limited to
Dermatology & Syphilology
929 Bryant Building
Kansas City, Mo.

Olen, Henry F., from 1225 Lake Drive, S. E., to 2244 Plainfield Ave., N. E., Grand Rapids 5, Mich.
Olson, Ken R., from Berkeley, Mich., to 26021 Coolidge Highway, Royal Oak, Mich.,
Orlowski, Francis J., Jr., from Portageville, Mo., to N. Main St., Chaffee, Mo.
Parker, J. Norman, Jr., PCO '50; 860 Bates St., S. E., Grand Rapids 6, Mich.
Patterson, William Rhodes, KC '49; 915 N. Broadway, Santa Ana, Calif.
Pencek, Ronald F., from 547 Chester Pike, to 539 Chester Pike, Prospect Park, Pa.
Pennington, Ray A., from 1815 Arlington Ave., to 704 Waco St., Corpus Christi, Texas
Penoyar, James H., from Linwood, Mich., to 406 N. Linn, Bay City, Mich.
Phifer, Henry J., KC '50; Box 81, Binger, Oklahoma
Pierce, Albert E., KC '50; Rocky Mountain Osteopathic Hospital, 2221 Downing St., Denver 5, Colorado
Price, Everette L., KC '50; Lutesville, Mo.
Printz, Sidney J., from 2118 Wallace Ave., to 2191 Bolton St., Bronx 60, N. Y.
Rambo, Cedric T., KC '50; Dallas General Hospital, 5003 Ross Ave., Dallas 6, Texas
Rambo, William H., from Jenks, Okla., to 116 W. Sixth St., Bristow, Okla.
Rice, Verne L., from 701 E. Midland St., to 715 Adams St., Bay City, Mich.
Roberts, Edward M., from Kirksville, Mo., to Queen City, Mo.
Roberts, R. Eleanor Sterett, from Kirksville, Mo., to Queen City, Mo.
Rubin, Abraham J., from Brooklyn, N. Y., to Covington, Ga.
Russell, Alexander B., from 1570 Main St., to 1562 Main St., Springfield 3, Mass.
Sands, Eugene N., CCO '50; Chicago Osteopathic Hospital, 5200 S. Ellis Ave., Chicago 15, Ill.
Scamahorn, G. F., from Court St., to Box B, Harrisville, W. Va.
Schreiber, Murray, from New York, N. Y., to 3945 W. Fairmount Ave., Philadelphia 4, Pa.
Schwartz, Edwin L., COPS '50; 1236 S. Sierra Bonita Ave., Los Angeles 35, Calif.
Seaman, Kent L., from Whittier, Calif., to 4147 Marlton Ave., Los Angeles 8, Calif.
Shearer, George C., from Rand, W. Va., to Auburn, W. Va.
Simon, Sidney, PCO '50; 5739 Delancey St., Philadelphia 43, Pa.
Smith, Wayne M., from Box 1246, to Box 1432, Jacksonville, Texas
Souders, B. J., from Galveston, Texas, to Porter Clinic-Hospital, 2401 19th St., Lubbock, Texas
Starr, Charles E., from Los Angeles, Calif., to 710 Badgerow Bldg., Sioux City 9, Iowa
Stoddard, Genevieve G., from 725 Sixth Ave., to 1023 Equitable Bldg., Des Moines 9, Iowa
Streicker, Walter M., from 1 Plaza St., to 1 Hanson Place, Brooklyn 17, N. Y.
Strumillo, Clement J., KC '50; Rt. 1, Box 347, Kansas City, Kansas
Summers, Chester C., from 1914 N. Chadbourne, to North Angelo Clinic Hospital, 1911 N. Chadbourne, San Angelo, Texas
Taylor, Frederick H., from 129 E. Grand River Ave., to 210 Abbott Road, East Lansing, Mich.

HAROLD COE, D.O.
F.A.O.C.Pr.,
Proctologist
501 Pine St.
St. Louis 1, Mo.

NEW MEXICO

J. Paul Reynolds, D.O.
Roswell Osteopathic Clinic and Hospital
401 N. Lea
Roswell, N. Mex.

NEW YORK

Thomas R. Thorburn, D.O
HOTEL BUCKINGHAM
101 W. 57th Street
New York City

OHIO

EAST SIDE HOSPITAL
TOLEDO, 5 OHIO
Member A. O. H. A.
Registered by A.O.A.
OPEN STAFF
M. N. Greenhouse D.O. Chief of Staff
Bernard Abel D.O. Administrator

PENNSYLVANIA

DAVID SHUMAN, D.O.
Hypermobile Joints
1728 Pine St.
Philadelphia, Pa.

RHODE ISLAND

F. C. TRUE, D.O.
SURGEON
1141 Narragansett Blvd.
CRANSTON 5, R. I.
CHIEF SURGEON
Osteopathic General Hospital of R.I.

Cosmo Cutting Unit
with
Power Control

A compact, easy to operate thermal unit. Used on 110 AC or DC current. Six months guarantee. Pilot indicator light.

FREE TRIAL

write for details on 10 day trial without obligation

ACT NOW
OFFER LIMITED

Pat. Pending

COSMO CAUTERY CO. 4215 Virginia Ave. St. Louis 11, Mo.

LITERATURE WALL RACK

For office, clinic or hospital.

Made of strong, welded steel, enameled black, with green fibre backing, and black chain hanger. Size 20 in. x 16½ in. Weight 2 lbs. 6 oz. (with crate 7 lbs.)

Keeps literature clean and orderly.

F.o.b. Chicago—$5.00

AMERICAN OSTEOPATHIC ASSOCIATION
212 E. Ohio St.
Chicago 11, Ill.

Thiessen, Lowell H., from 2319 W. Compton Blvd., to 2203 W. Compton Blvd., Gardena, Calif.
Thompson, E. D., from 1502 Main St., to 2220 Broadway, Lubbock, Texas
Vanden Daele, Marie D., CCO '49; 1170 Madison Ave., S. E., Grand Rapids 7, Mich.
Varney, F. Curtis, from Hermosa Beach, Calif., to 201 Hawthorne Ave., North Sacramento 15, Calif
Vick, Robert L., from Tulia, Texas, to 205 Pace Bldg., Duncan, Okla.
Weinberg, Friedman, KCOS '50; Osteopathic Hospital of Kansas City, 926 E. 11th St., Kansas City 6, Mo.
Wescott, Thomas P., from Kingman, Kans., to Stover, Mo.
Whitney, Leigh, from 8920 Katherine Ave., to 14452 Titus St., Van Nuys, Calif.
Wilder, Floyd W., KC '50; 7725 Newton, Overland Park, Kans.
Willcutt, Eugene C., from Detroit, Ore., to Idanha, Ore.
Winn, James A., from Clarksville, Tenn., to Dexter, N. Mex.
Wood, John F., COPS '50; 126 E. Avenue, 41, Los Angeles 31, Calif.
Wright, Lulu Herbert, from Little Rock, Ark., to 426 Gladstone Blvd., Kansas City 1, Mo.
Young, Paul S., from Philadelphia, Pa., to 332 Cornell Ave., Swarthmore, Pa.
Yunginger, Lewis Martin, from Bird-in-Hand, Pa., to 304 E. Orange St., Lancaster, Pa.

APPLICATIONS FOR MEMBERSHIP

CALIFORNIA

Cole, Wesley J., 5049 Vincent Ave., Eagle Rock, Los Angeles 41
Garduno, Fernando, (Renewal) 137 E. Adams Blvd., Los Angeles 11
Ginsburg, Leon J., (Renewal) 1755 W. Century Blvd., Los Angeles 47
Harding, Nancy J., (Renewal) 4009 Marmion Way, Los Angeles 65
Israel, Morris V., (Renewal) 11225 S. Vermont Ave., Los Angeles 44

ILLINOIS

Sutton, Paul E., (Renewal) 134 E. York St., Olney

KANSAS

Coulter, Thayne A., (Renewal) Elk State Bank Bldg., Clyde

MICHIGAN

Cox, Minnie C., (Renewal) 9235 Agnes St., Detroit 14.
Mathews, Albert L., (Renewal) 705 Community Natl. Bank Bldg., Pontiac 14
Mathews, Lamar K., (Renewal) 705 Community Natl. Bank Bldg., Pontiac 14

MISSOURI

Murrell, Robert E., (Renewal) Eldon
Pearson, Jean Roberts, (Renewal) 6207 King Hill Ave., St. Joseph 27

NEBRASKA

Griffin, C. S., (Renewal) 130 S. Fifth St., Seward

NEW JERSEY

Isman, Carl J., (Renewal) 5604 Ventnor Ave., Ventnor City

OHIO

Bossemeyer, F. H., (Renewal) 909 McCleary Ave., Dayton 6

PENNSYLVANIA

Barnhurst, William M., (Renewal) 3475 Midvale Ave., Philadelphia 29
Boal, Eleanor E., (Renewal) 731 Vernon Road, Philadelphia 19
Poppe, Herman E., (Renewal) 4537 Spruce St., Philadelphia 39
Richards, Charles L., (Renewal) Bashline-Rossman Osteopathic Hospital & Clinic, Cor. Pine & Center Sts., Grove City

TEXAS

Thompson, Homer M., (Renewal) Washington Center Osteopathic Clinic & Hospital, 1608 Washington St., Amarillo

VERMONT

Prendergast, John C., 64 Main St., Poultney

WEST VIRGINIA

Willis, Donald G., (Renewal) Wellsburg Osteopathic Hospital & Clinic, 1017 Main St., Wellsburg

CANADA
ONTARIO

Moyer, Melvin E., (Renewal) 6 James St., S., Hamilton

Ideal for the Colitis Patient

Why Doctors Prefer It

Relieves hyperacidity without gas or acid-rebound.

Does not interfere with normal digestion.

Cannot cause alkalosis.

Accelerates healing of ulcers and inflamed mucosa by soothing demulcent action.

Gentle and effective.

Corrects and prevents stubborn constipation.

Neutralizes digestive irritants by selective colloidal adsorption.

No alkali. No laxative drugs.

Safe and dependable for all ages.

Mail coupon for Introductory Offer

THE ESSCOLLOID CO., INC.
1620 Harmon Place
Minneapolis 3, Minn.

NAME.....

ADDRESS.....

CITY.....

STATE.....

You + Osteopathic Magazine =

An Informed Public

You are the most important part of this equation. Yours is the responsibility of seeing that the public—your patients and friends—are informed about osteopathy. And yours is the practice that will benefit most from an informed public. The public is watching not only you but your whole profession. If they are to judge the osteopathic profession fairly, they must know the facts about osteopathy. You are the one who can bring these facts to the public.

Osteopathic Magazine is the medium designed to help you in this important public relations job. Every month it features stories and articles about the osteopathic profession, written in a manner the public will understand and accept. OSTEOPATHIC MAGAZINE offers you an ethical way to tell your patients and friends about your work and the principles which lie behind it.

The January issue of OSTEOPATHIC MAGAZINE will do a specific job of telling the osteopathic story to your public. It will carry such stories as *Healing Hands, What Is Osteopathy?, The Hidden Problem in Allergy's Child,* and *Resolve to be Beautiful.* Each article tells interesting and valuable facts about osteopathy.

- *With a yearly contract, you can send "Osteopathic Magazine" for 8½ cents a copy.*
- *A single order of "Osteopathic Magazine" will cost 9 cents a copy for the first 200.*
- *You can have your name imprinted on each copy you send for $1.00 per 100 magazines.*
- *Central office will mail your magazines for you at a rate of 10¼ cents per copy, under a yearly contract, and 10¾ cents for single orders.*

Take this opportunity to order OSTEOPATHIC MAGAZINE for your friends and patients. You still have time to order the January issue. It will create maximum good will.

AMERICAN OSTEOPATHIC ASSOCIATION
212 E. Ohio St., Chicago 11, Ill.

Advertiser's Index

Alkalol Co. 26
American Felsol Co. 39
American Osteopathic Association 42, 47, 48
American Sterilizer 4
Ayerst, McKenna & Harrison, Ltd. 19

Barnes, A. C., Company, Inc. 29
Bristol-Myers Co. ..... Cover II
Burton, Parsons & Co. 9

Carnation Co. 10
Cereal Lactic Co. 18
Chatham Pharmaceuticals, Inc. 41
Classified Ads 45
Commercial Solvents Corp. 32
Cosmo-Cautery Co. 47
Cutter Laboratories 28

Dartell Laboratories 35
F. A. Davis Co. 3
Desitin Chemical Co. 33

Endo Products Co. 31
Esscolloid Co. 47

Florida Citrus Commission 13

Gomco Surgical Mfg. Co. 22

Holland-Rantos Company 11
Huxley Pharmaceuticals, Inc. 42

Johnson & Johnson 50

Kelley-Koett Mfg. Co. 6
Kremers-Urban Co. 17
Kruse, G. & Co. 49

Lanteen Medical Lab., Inc. ..... Cover IV
Larson Laboratories 22
Lea & Febiger 25
Thos. Leeming & Co., Inc. 34

F. Mattern Mfg. Co. 24
McIntosh Electrical Corp. 25
Menley & James, Ltd. 40
Meyers Clinic 26
Morris & Co., Philip 16
Morton Pharmaceuticals 26
Musterole Co. 49

Nestlé Co. 24
Novocol Chemical Co. 38

Pelton & Crane Co. 36
Pet Milk Co. 12
Physicians' Drug & Supply Co. 22
Picker X-Ray Corp. 1
Professional Cards 46
Professional Foods 20
Professional Prtg. Co. 23

Raytheon Mfg. Co. 30
Ritter Co., Inc. 37
Roerig, J. B. & Co. ..... Cover III

Sandoz Pharmaceuticals 8
Saunders, W. B. Company ..... Cover I
Schering Corp. 7
Julius Schmid, Inc. 15
Shield Laboratories 27
Smith, Martin H., Co. 45
Spencer, Inc. 43
Standard Pharmaceutical Co., Inc. 43
Stuart Company ..... Insert

Taylor Instrument Companies 44
Teckla Garment Co. 45

United Fruit Co. 21

Vitaminerals, Inc. 14

William Warner Co. 5
Wocher, Max & Co. 20

Young, F. E. & Co., Inc. 26

Between office visits suggest this topical therapy for

MUSCLE ACHES SORENESS, STIFFNESS

Lumbago and Neuritis Discomfort

Between professional visits, your patients should welcome this topical analgesic, counter-irritant, decongestive home therapy. Suggest that they massage the affected area with Musterole.

Musterole with massage helps increase topical circulation and brings fresh blood to the affected parts for symptomatic relief. A clean white rub that will not stain the clothing.

The *only* rub made in 3 different strengths: Children's Mild for tender skin. Regular for adults and Extra-Strong Musterole for more distressing cases.

MUSTEROLE®

Quality is the prime factor in the *KRUSE "75" . . . plus utility and service.

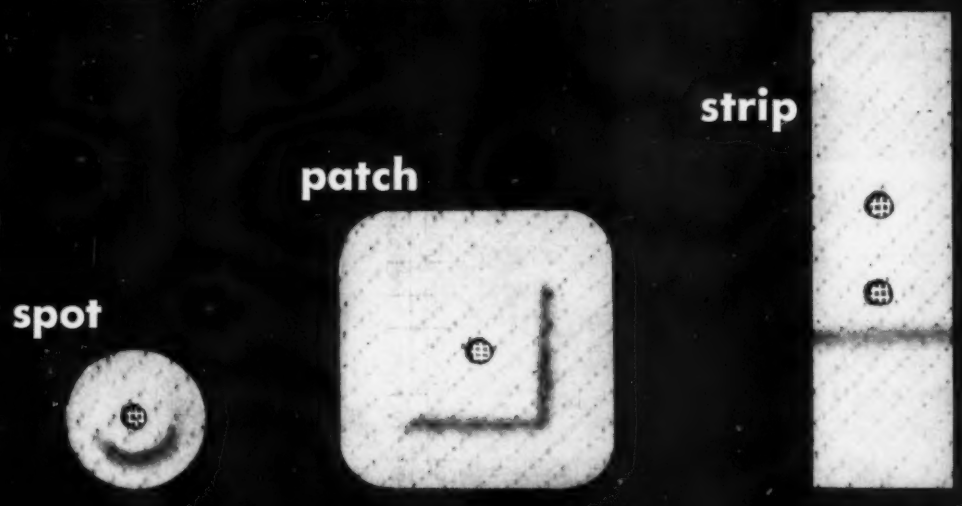
The three handy exterior sliding compartments, six interior adjustable bottle loops and utility pocket permit a systematic arrangement of instruments and accessories. Sturdy construction, steel frame, attractive design, black genuine pigskin, chromium plated expansion lock and hardware, and comfortable carrying handles . . . this is the KRUSE "75". Over all size 16" long, 8" wide, and 10" high. "Sold at Surgical Supply Dealers"

*Reg. U. S. Pat. Off.

G. KRUSE & CO.

800 McCarter Hwy., Newark 5, N. J.

3 new *elastic* dressings with the famous BAND-AID* name



- **stretch with every movement**
  fit better · stay put · more comfortable
- **blend with skin**
  flesh color · inconspicuous
- **a size and shape for every need**
  individually wrapped · sterile · waterproof

*BAND-AID *means* — *made by*

Johnson & Johnson

The fallacy of the balanced diet...

Scientific investigations have proved that foods grown in different soils—although very similar in appearance—may vary as much as 100 to 600 per cent in vitamin, mineral and trace element content! These findings are evidence that THE DAILY DIETARY, NO MATTER HOW WELL PLANNED, CANNOT BE DEPENDED UPON TO FURNISH ADEQUATE AMOUNTS OF THE INGREDIENTS NECESSARY FOR OPTIMUM NUTRITION AND WELL-BEING.

As a protective measure against the elusive variations in the vitamin-mineral content of food, specify VITERRA—true nutritional supplementation in a convenient, easy-to-take capsule.

Viterra

12 Minerals and 9 Vitamins all in one capsule

Cobalt	0.1 mg.	Magnesium	6 mg.	Thiamine HCl	3 mg.
Copper	1 mg.	Molybdenum	0.2 mg.	Riboflavin	3 mg.
Boron	0.2 mg.	Phosphorus	165 mg.	Pyridoxine HCl	0.5 mg.
Iron	10 mg.	Potassium	5 mg.	Niacinamide	25 mg.
Iodine	0.15 mg.	Zinc	1.2 mg.	Ascorbic Acid	50 mg.
Calcium	213 mg.	Vitamin A	5,000 USP Units	Pantothenate	5 mg.
Manganese	1 mg.	Vitamin D	500 USP Units	Tocoperols, Type IV	5 mg.

J. B. ROERIG AND COMPANY, Chicago 11, Illinois

AN APPROVED TECHNIQUE

JUST OFF THE PRESS--

IMPROVED METHOD OF CONTRACEPTION—a twelve-page brochure with five full-color anatomical illustrations—presents a complete description of the improved diaphragm and jelly method of contraception, which, according to the A.M.A. Council on Pharmacy and Chemistry, offers a maximal degree of protection.

The brochure features an improvement in contraceptive technique designed to give greater protection by assuring an adequate supply of spermatocidal jelly around the cervix, where it is needed most.

Lanteen Jelly contains: Ricinoleic Acid, 0.50%; Hexylresorcinol, 0.10%; Chlorothymol, 0.0077%; Sodium Benzoate and Glycerine in a Tragacanth base.

Available Without Cost to the Medical Profession

On request, Lanteen Medical Laboratories will send without charge:

1. The brochure, "Improved Method of Contraception."
2. The full-size professional package of Lanteen Jelly.

The unusually fine quality and construction of the Lanteen Diaphragm and the rapidly spermatocidal action and soothing effect of Lanteen Jelly are the basis for the safe and effective protection afforded by the IMPROVED METHOD OF CONTRACEPTION.

The Lanteen Diaphragm and Lanteen Jelly are accepted by the Council on Physical Medicine and the Council on Pharmacy and Chemistry of the American Medical Association, respectively.

Lanteen

LANTEEN MEDICAL LABORATORIES, INC.

2020 Greenwood Street, Evanston, Ill.